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PROGRAM ON THE TEACHING OF PSYCHOLOGY IN THE SECONDARY SCHOOL:

Final Report

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FOREWORD

The present report is intended as a source book for teachers of psychology, particularly at the high school level. It is one of several products of a five-week project held at Oberlin College in the summer of 1970. The project was funded by a grant to Oberlin by the United States Office of Education in conjunction with the Consortium of Professional Associations to Study Special Teacher Improvement Programs.

The American Psychological Association was a central coordinating agent in planning and organizing the project and identifying participants and consultants. Very special thanks are due to Margo Johnson of the APA Educational Affairs Office for her work in making arrangements. Thanks are also due to Robert Dixon, resident director of the project, who was responsible for administrative arrangements at Oberlin. Additional thanks are to be rendered to the participants, most particularly to John Bare, who served as staff director and discussion leader.

The American Psychological Association is pleased to be able to provide this source book to teachers as a service to the academic community. So doing, however, does not constitute endorsement, implied or otherwise, of the views and recommendations that are contained therein. Any omissions that may have occurred are deeply regretted.

November 1970

C. Alan Boneau
Director of Programs and Planning
American Psychological Association

INTRODUCTION

While the American Psychological Association has long had an interest in developing both the teaching of psychology at the high school level and all the supportive programs that might be required, its efforts began to gain momentum in the fall of 1969. At the annual meeting of the APA Council of Representatives in September, the Board of Directors

> reported that it had authorized the Executive Officer to negotiate with appropriate agencies for funds to begin the first phase of a curriculum development project for the precollege level, the first phase to consist of working sessions dealing with the preparation of preliminary guidelines for offerings in psychology in the elementary and secondary schools and for the preparation of teachers for these subjects, for a clearinghouse on related information, and for a means of disseminating accumulated materials to teachers and other interested individuals [American Psychologist, 1970, 25, p. 30].

The clearinghouse is now being organized, and the program of which this report is a product was initiated and organized by APA. The goals of the program, to quote the proposal, were

> to elaborate the story which psychology has to tell at the high school level, to provide guidelines for educators in the colleges to train high school teachers of psychology, and, in the course of achieving these goals, to evolve a set of curricular elements based on a clearly stated philosophy of what psychology should be in the secondary schools.

The participants in the program were two high school teachers of psychology and eleven college and university psychologists who had no special expertise in high school teaching but a consuming interest in the teaching of psychology at all levels.

The consultants were:

Polly Alexander, President, National Association of School Psychologists
Joanne Barth, Editor, Sociological Resources for the Social Studies
John Belcher, Principal, John Hay High School, Cleveland, Ohio
C. Alan Boneau, APA Central Office
Donald Brown, Center for Research on Learning and Teaching, University of Michigan
Robert Daniel, Psychologist, University of Missouri
James Deese, Psychologist, Johns Hopkins University
William Drummond, Associate for Teacher Education, Washington State Department of Public Instruction (teacher certification specialist)
Graeme S. Fraser, Staff Sociologist, Sociological Resources for the Social Studies
Jack Frymeier, Ohio State University (curriculum development specialist)
Margo Johnson, APA Central Office
James Jordan, Counselor, John Hay High School, Cleveland, Ohio

Margaret Knispel, Associate Secretary, National Commission on Teacher Education and Professional Standards
James Kulik, Center for Research on Learning and Teaching, University of Michigan
Frank Laycock, Department of Education, Oberlin College (teacher education specialist)
Kenneth B. Little, Executive Officer, APA Central Office
George Miller, Psychologist, Rockefeller University
Ralph Mosher, Harvard Graduate School of Education, Triple-T Project
Merle Moskowitz, Psychologist, University of Pittsburgh
Henry Pennypacker, Psychologist, University of Florida
Oakley Ray, Psychologist, Vanderbilt University
Dan Smith, Teacher, John Hay High School, Cleveland, Ohio
Norman Sprinthall, Harvard Graduate School of Education, Triple-T Project
Thomas J. Switzer, Staff Teacher-Designer, Sociological Resources for the Social Studies
Wilse B. Webb, Psychologist, University of Florida
Fred Wilhelms, Executive Secretary, Association for Supervision and Curriculum Development
Jan Wright, Center for Research on Learning and Teaching, University of Michigan

The materials that were collected by the clearinghouse at APA headquarters were assembled at Oberlin, and the participants, faced with little available information, began their task.

It soon became apparent that while there might be some who questioned the legitimacy of teaching psychology in the high schools, there was no such disposition among members of this group. Rather, there was recognition that psychology is presented to students in diverse ways at the secondary school level --in courses designated psychology, social studies, biology, contemporary problems, and mental hygiene, and the group was unanimous in its conviction that through APA the profession should encourage improvement in the quality of instruction.

To this end two sets of tasks emerged. The first was to provide immediate assistance to high school teachers through the APA clearinghouse. Accordingly, it was decided to produce: reviews of texts, readings books, and laboratory manuals with their use in high school in mind; descriptions of journals; a catalogue of audiovisual materials; a listing of source materials for the teacher; a listing of suppliers of equipment and animals; a listing of popular collateral books; the addresses of national organizations from which materials appropriate for instruction can be obtained; a sampling of some methodological successes used by the program members in their teaching; and some suggestions of ways to organize a first course in psychology. These materials constitute the remaining sections of this report.

The second set of tasks, of much longer range, included: (a) developing a course or courses in psychology for the high school, including a rationale; (b) increasing communication with and developing supportive programs for the high school teacher; (c) establishing programs for teacher training and standards for certification; and (d) ensuring the establishment of a continuing process for the collection of data. The recommendations of the program members regarding these tasks have been transmitted to APA for consideration.

One central principle on which there was unanimous agreement should be highlighted. While a course may be organized to move either from issues to the discipline or from the discipline to issues, only those courses that in some way treat the classic areas of the discipline (e.g., methods, learning, perception, social psychology, etc.) should be called psychology so that students will have a clear understanding of the definition of the discipline. In this sense of the term psychology, the program concerned itself primarily with developing supportive aid for the high school teacher, whether he teaches an entire course or units in courses of a broader scope. Courses devoted entirely to mental hygiene were excluded.

REVIEWS OF INTRODUCTORY TEXTBOOKS

The 36 reviews presented here represent only a sample of the texts appropriate to an introductory course in psychology. In addition the teacher may want to consult "Reviews of Books of Readings" for selections that conceivably could be used as texts.

Some explanation is in order about the manner in which these particular texts were selected. Prior to the assembling of the participants in the high school psychology project, the APA wrote many publishers of psychological books requesting copies of texts written specifically for the secondary school course or others judged suitable for such usage. These comprise about half of those reviewed. The others were ones easily obtainable during the conference.

Wide ranges of emphases, content, and levels of reading difficulty are represented. Some effort has been made to show where each falls on these continua. Because the amount of the teacher's undergraduate training in psychology and the types of students enrolled in the course vary, the final decision on the suitability of a particular text must be left to the judgment of the individual teacher.

Since the reviews are of necessity short and represent a single reviewer's judgment, it would be desirable for the teacher to obtain a copy of any text he is considering and examine it personally before making a decision to use it. In some cases a complimentary desk copy or examination copy may be obtained from the publisher through a request written on school letterhead. The letter should be addressed to the attention of the publisher's high school text department. If there is a college or university nearby, it also may be possible to borrow a copy from the library or from a member of the department of psychology.

Berelson, B., & Steiner, G. A. Human behavior: An inventory of scientific findings. New York: Harcourt, Brace & World, 1964. Pp. 712. $8.95.

The book represents an effort to bring together a series of statements about human behavior that are based on a reasonable amount of scientific evidence. In each instance the statement is judged to have a level of generality worthy of inclusion in an inventory. The 1,042 findings have been gleaned from many fields, of which psychology, sociology, and anthropology are only a few.

The book was not intended to be a text, and it would not serve this purpose effectively, at either the high school or college level, since it presents a (more) fragmented view of the field. It does, however, have the virtue of acquainting the reader with the state of the art in the form of easily read conclusions concerning what we think we know about human behavior.

The book could serve as a useful review for the high school teacher of psychology who wishes to acquire a fund of information in a variety of different areas.

Branca, A. A. Psychology: The science of behavior. (2nd ed.) Boston: Allyn & Bacon, 1968. Pp. 584. $6.88 cloth.

The book is essentially traditional in covering topics usually found in an introductory text. It is designed for the high school audience, with an appropriate vocabulary level. Its goal is to offer psychology as a science and on an experimental base although it includes such topics as personality, intelligence, and behavior disorders treated within an objective framework.

The approach is descriptive and nonpolemical.

The average student will be pleased to see names and dates kept to a minimum although the more enterprising one may be disappointed by not being able to follow through easily with who, what, and when. On the other hand, the author introduces topics with a short history that is simply and interestingly presented.

There is an index and glossary for the book as a whole. For each chapter there are lists of New Words and Old Words with Psychological Meanings, Things to Do, Thought Questions, and Suggested Outside Readings. Most of the latter are chosen carefully from books of readings, the Scientific American, and other texts so that a not too extensive set of library materials is necessary for outside support.

There is a small teacher's manual giving the raison d'etre for each chapter along with suggested answers to the thought questions. In addition, there are Suggested Films, Experimental Aids, and Suggested Background Reading for High School Psychology Teachers.

The text is widely used, and deservedly so, for the full-year course. It would also be appropriate for the one-semester course, perhaps with certain chapters omitted.

Communications/Research/Machines, Inc. Psychology today. Del Mar, Calif: Author, 1970. Pp. 708. $12.95 cloth.

The textbook is a composite effort written by 38 psychologists representing a broad range of interests. There are 35 chapters grouped according to the traditional topics of an introductory psychology course. The multitude of chapters should facilitate the task of choosing a balanced and appropriate sample if an instructor has less than the two semesters that would be required to cover the entire book. It is the best illustrated (most extensive and colorful) introductory psychology text available--a plus in gaining and maintaining student interest, as is the chapter on "Drugs and Behavior." On the negative side, the chapters are occasionally uneven in the treatment accorded various topics. The sections on "The Sensory World" and "Social Psychology" are good; that on "Human Function" is spotty. For a high school psychology course, the illustrations and potential flexibility in meeting various curriculum demands make this book a strong candidate. Several books of readings and a student workbook are also available.

Dallett, K. Problems of psychology. New York: Wiley, 1969. Pp. 360. $5.95 cloth.

Covering the traditional areas in a concise, nontraditional way, this short book accomplishes what others take twice the space to do. Small type and few pictures are used. A major defect is that the data cited in all areas are old (1966 is the most recent reference used). History, systems, and design are not treated per se, but are integrated with other material. Fully one-fourth of the main text is devoted to perception and perceptual mechanisms.

Well-written suggestions (not just lists of titles) for further reading are provided, as is a section entitled "How to Use the Psychological Literature."

The book would not be the choice of teachers of below average to normal high school students but would be appropriate for brighter students. The teacher should be acutely aware of the strong perceptual orientation. (It is not a bias, merely an orientation.)

Dember, W. M., & Jenkins, J. J. General psychology: Modeling behavior and experience. Englewood Cliffs, N. J.: Prentice-Hall, 1970. Pp. 784. $9.95 cloth.

The classic areas of psychology are thoroughly covered in this compendium of introductory psychology. Starting from cogent discussions of psychology as a science, the problems inherent in having humans study human behavior, measurement (including statistics), and the history of psychology, the authors include two large sections on sensation and perception, and language and complex processes, both of which are quite current in coverage.

Other sections cover simple learning and memory as well as motivation, emotion, personality, and social. The book as a whole is too long for anything less than a two-semester course in high school psychology, but the introductory section and final conclusion are particularly good in eliciting interest and summarizing the book, respectively. Likewise, occasional sections that raise alternative points of view are interspersed throughout and should serve to keep the student from becoming too stereotyped in his approach. This same position-counterposition approach is maintained in a student workbook accompanying the text.

In sum, the book is a thorough, balanced, but somewhat lengthy and encyclopedic introduction to psychology.

Engle, T. L., & Snellgrove, L. Psychology: Its principles and applications. (5th ed.) New York: Harcourt, Brace & World, 1969. Pp. 612. $4.32 text.

The book was designed to be a high school text. The format consists of the presentation of a question followed by the authors' answer. A list of activities and supplementary readings follows each chapter. A pronunciation guide is supplied for many of the psychological terms employed.

If reading supplements are to be used, the library or teacher will have to provide a number of textbooks. Many of the readings cannot be found in the public library.

A Teacher's Manual and Objective Tests and a thorough treatment of experiments in the Record of Activities and Experiments are provided.

Ferster, C. B., & Perrott, M. C. Behavior principles. New York: Appleton-Century-Crofts, 1967. Pp. 576. $8.95 cloth.

Many contemporary psychologists feel that with the exception of unconditioned reflexes and behavior disorders resulting from organic damage, all behavior, both normal and abnormal, is learned. It is possible, therefore, that this excellent treatment of operant learning might be an appropriate text for a one-semester high school course in psychology. The text materials are presented in short, easily masterable blocks preceded by a brief statement of the objectives and followed by a set of points made. Evaluation of performance is accomplished through individual interviews during which the students must demonstrate complete mastery of the material within a 10-minute period and then increase their mastery further by interviewing others who are progressing at a slower rate. The book starts with animal data and extends laboratory findings to what may be for the student a more real world.

For a description of the usage of this book in the college classroom and the interview method in general, see C. B. Ferster, "Individualized Instruction in a Large Introductory Psychology College Course," Psychological Record, 1968, 18, 521-532.

Although some units could be omitted, the text is a unified whole and cannot be sampled easily.

Gallup, H. F. *An invitation to modern psychology*. New York: Free Press, 1969. Pp. 252. $2.95 paper.

This is a short, eclectic text obviously written for a one-semester introductory course. It manages to squeeze all of the usual areas into a readable, concise piece of work. Uses of examples are liberal and interesting. Also included is an appendix consisting of a program on probability.

While the book ostensibly was meant to deal with human behavior, it does so only in an anecdotal way. Most data cited come from animal studies.

The book is not recommended for college use but might be appropriate for community college and/or high school students.

Gilmer, B. V. H. *Psychology*. New York: Harper & Row, 1970. Pp. 512. $9.95 cloth.

There are 42 very short chapters (average length is about 10 pages) arranged in 14 sections. The first 2 chapters in each section relate to research and theory while the last one deals with problems relevant to daily living. Many of these are not bad, but some are fairly farfetched. The coverage is broad, including everything from why we have backaches to ESP, flying saucers, studying, marriage, tiredness, advertising, making career decisions, etc. At the end of each section are suggestions for further reading and indications as to which readings are more technical in nature. The text is not interrupted with names, but there is an extensive bibliography.

Despite his claim, Gilmer does try to be encyclopedic, not in terms of amount about each topic but in number of topics attempted. If he had done fewer things (with more depth), he might have given a more realistic picture of each topic's complexities. On the other hand, he does give a better picture of the whole sweep and scope of the field than does a book like Sandberg's which limits itself to only a very few areas.

Overall, it has possibilities for high school use; it has some degree of relevance to daily living, and it is written very simply. A teacher with a very limited psychology background could probably use it more successfully tha many other books.

Hershey, G. L., & Lugo, J. O. *Living psychology: An experimental approach to behavior*. New York: Macmillan, 1970. Pp. 480. $7.95 cloth.

Hershey and Lugo made an extensive effort to write an introductory psychology textbook for the 1970 student. Their stated objectives are to show students that "psychology as a science and profession can offer possible solutions to some of man's problems," that psychology "is still a young and growin science with many areas of human behavior in need of much more research," and that "modern-day psychology has much to offer the beginning psychology student that may help him as he develops into a unique individual and a participating citizen in our fast-moving society." The textbook is a response to suggestion made by introductory psychology students regarding what they wanted included i a text. As refreshing as the onset of spring, the authors break with the traditional nine-page table-of-contents type of textbook and consider the scientific exploration of behavior under four major topics: "Understanding Yourself," "Understanding the Development of Human Behavior," "Dynamics of Human Behavior," and "Understanding the Future Development of Human Behavior." Included are references for special interest topics and appendices treating physiological psychology and statistics. Supplementary material to accompany the ext includes a student handbook.

Academic psychologists, on the whole, urge a comprehensive and empirical reatment of psychology in the high school. The text's intended audience is he college student. In the reviewer's opinion, few college professors will dopt this book because it (*a*) is too simpleminded...SEE DICK RUN...(required eading ability is low to medium); (*b*) does not do justice to research; (*c*) s repetitive; (*d*) presents a biased orientation (Fromm, Maslow, & Rogers); *e*) has a "mental health" approach (how to live and grow with oneself and thers); (*f*) is not a survey course (omits or hypercasually treats traditional opics); and (*g*) has too many pictures.

The text does not rigorously explore the scientific discipline of psyhology and gives a one-sided view of one kind of psychology. On the other and, there may be more than one "psychology"; there may exist an introductory sychology course that is not of the traditional survey variety. Therefore, he reviewer recommends consideration of this book at the high school level or teachers who, for one reason or another, must teach a "living psychology."

ilgard, E. R., & Atkinson, R. C. *Introduction to psychology*. (4th ed.) New York: Harcourt, Brace & World, 1967. Pp. 686. $9.95 cloth; $3.50 paper.

The fourth edition of the text has been thoroughly revised and almost 50 er cent of the references are new.

It is a thoroughgoing, encyclopedic approach to the traditional topics of sychology organized into 24 chapters. A glossary provides additional inforation regarding terms encountered throughout the text. The critical discusions found in each chapter constitute separate but related sections that help he student gain the flavor of the unfinished business that characterizes the ield.

The writing represents a skillful blending of factual and theoretical aterial. Despite the fact that there are many helpful illustrations, the extbook has a rather severe style that would make it difficult to use at the igh school level unless the students are unusually sophisticated and profesionally oriented.

ill, W. F. *Psychology: Principles and problems*. New York: Lippincott, 1970. Pp. 674. $9.95 cloth.

The text is encyclopedic in nature, covering the traditional areas of sychology. It may be too sophisticated for some high school students. Twohirds of the text is devoted to theoretical areas, and about a third is deoted to the more applied areas. There are three unifying themes: learning, ature-nurture, and the nature of theory.

The teacher's manual is good in the resources it recommends, i.e., films, lides, and equipment.

The text seems to cover the areas adequately, but it includes too many ames for most high school students to handle and the language is at times too echnical. It could possibly be used for a more advanced course, or it could erve as a good reference for the teacher.

olland, J. G., & Skinner, B. F. *The analysis of behavior: A program of self-instruction*. New York: McGraw-Hill, 1961. Pp. 337. $6.50 cloth; $4.95 paper.

The reviewer has used the book in an introductory course, and although tudents complained a bit, there is no question that they not only learned the concepts and techniques of operant learning but could apply them as well. One justification for using this volume is that it is an example of using programmed learning to teach the principles of learning on which programming is built.

Kagan, J., & Havemann, E. *Psychology: An introduction*. New York: Harcourt, Brace & World, 1968. Pp. 673. $8.95 cloth.

Havemann's ability as a magazine writer is reflected in this exceptionally well-written text. Though traditional in its choice of topics, many relevant examples are given. In addition, each chapter begins with an outline and has a final series of summarizing statements. It is highly recommended.

Kalish, R. A. *The psychology of human behavior*. (2nd ed.) Belmont, Calif: Brooks/Cole, 1969. Pp. 529. $8.50 cloth.

This rather low-keyed text, which high school students should be able to read and understand, is broken into four units: (*a*) "Basic Principles of Psychology," including learning, language, needs, etc.; (*b*) "Development of Human Behavior," including personality, child development, adolescence, and courtship and marriage; (*c*) "Development and Effects of Stress," including emotions, reactions to stress, and behavior disorders; and (*d*) "Man and His Society," including individuals and groups, values, and higher education and the student.

The book tries to relate to the reader how psychology affects him and thus is more problem oriented than "pure" psychology texts. It is somewhat encyclopedic in its scope with the main emphases in applied areas. It is interesting in parts and makes use of many photographs from television shows and other areas of interest to the student. If one were not interested in a "classical" course in psychology, this text might be appropriate.

Kendler, H. H. *Basic psychology*. (2nd ed.) New York: Appleton-Century-Crofts, 1968. Pp. 755. $9.25 cloth.

The text offers some excellent resources for the teacher of high school psychology as well as several chapters for the student to supplement his reading, e.g., "Sensation," "Perception," "Verbal Behavior," "Personality," and "Applied Psychology."

Kimble, G. A., & Garmezy, N. *Principles of general psychology*. (3rd ed.) New York: Ronald Press, 1968. Pp. 756. $9.50 cloth.

The book is yet another all-things-to-all-men text. The data cited are up-to-date (for 1968) but often do not appear to be appropriate; i.e., they do not illustrate any particular point being made. This may be the result of the authors' attempts to be eclectic.

It is difficult to think of a situation in which the text would be an appropriate choice for high school.

Krech, D., Crutchfield, R. S., & Livson, N. *Elements of psychology*. (2nd ed.) New York: Knopf, 1969. Pp. 928. $9.95 cloth.

The text provides comprehensive coverage by dealing with most of the major topics of psychology. Although no one text can do justice to the entire field, this huge book does a reasonably thorough job. It has been kept up-to-date; almost half of the references are new to this edition.

The text is pitched at a fairly high academic level. Secondary school students who are highly literate and well motivated will find it interesting and challenging. The coverage is so comprehensive that if the entire text is assigned, it should be suitable for a two-semester course. It may be used for a one-semester course by omitting some of the material. Omitting material is relatively easy to accomplish because the book has been organized into 50 short units. Since each has a narrow concentration of subject matter and is independent of the others, the instructor may use his own judgment in selecting.

Boxes have been inserted in the text at appropriate points and contain helpful material in the form of illustrations, demonstration experiments, or research data.

Lewis, D. J. Principles of scientific psychology. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 580. $8.95 cloth.

The publication date of this book probably makes it outdated for use as a text. However, it contains basic material in two areas: (a) thinking and problem solving and (b) conflict and frustration, the treatment of which is unusually good. It could thus serve as a source book for the high school teacher.

McKeachie, W. J., & Doyle, C. Psychology. (2nd ed.) Reading, Mass.: Addison-Wesley, 1966. Pp. 703. $9.50 cloth.

The textbook covers the traditional topics found in an introductory presentation. As a text for the high school it would be utilized best by a sophisticated audience. Several chapters provide the teacher with resources for teaching material and supplementary readings for the students, e.g., "The Cultural Background of Behavior," "Learning," "Cognition, Problem Solving, Creativity and Intelligence," "The Person: Personality Characteristics and Their Assessment," and "The Person and Society." At the end of each chapter is a list of Concepts, Principles, and Suggested Readings. Supplements include an instructor's manual and a list of test questions.

Morgan, C. T., & King, R. A. Introduction to psychology. (3rd ed.) New York: McGraw-Hill, 1966. Pp. 816. $8.95 cloth.

The book is an encyclopedic presentation of classical topics and is presently in need of revision. There is an inordinately heavy physiological orientation--two entire chapters, one of which even deals with the pyramidal and extrapyramidal motor systems. Despite these possible shortcomings, the book is interestingly written. One section that would be valuable to the student concerns the now famous SQ3R method of studying. The instructor may wish to refer his students to this for their use even if the book is not adopted. Without revision and shortening, the book is not recommended except possibly for courses that have a biological orientation. A separate readings book (a good one) and student's manual are available.

Munn, N. L., Fernald, L. D., Jr., & Fernald, P. S. Basic psychology. (2nd ed.) Boston: Houghton Mifflin, 1969. Pp. 557. $9.50 paper.

Basic Psychology is an adaptation of the longer text Introduction to Psychology by the same authors. In the preface the authors state that the adaptation contains less emphasis on such topics as sensory processes, statistics, language, and the history of psychology. It is designed for use in short college courses but could be used as a whole for a full-year high school course, or parts of it could be used for a one-semester course. Basic elements of physiology are covered in a supplement, which could prove useful to a high school biology teacher presenting a section on behavioral physiology.

While one might simply label this text as "appropriate for a high school course which strives to be a watered-down college level introductory psychology course" and discard it, several points make it worth serious consideration by any teacher who plans to teach scientific psychology: (a) it is clearly written; (b) names of researchers and the dates of their publications are placed at the end of phrases, sentences, or paragraphs where they do not distract the novice; (c) up-to-date materials are covered; (d) summaries at the end of chapters are excellent; and (e) the Suggested Readings at the end of each chapter include good, brief statements of the nature of the materials listed. The high school teacher teaching general experimental psychology to average or advanced juniors or seniors who are potential college material could well use the book as a text. It is also one of the best currently available up-to-date texts for use as a source book by any high school teacher of psychology.

Notterman, J. M. Behavior: A systematic approach. New York: Random House, 1970. Pp. 368. $7.50 cloth.

The book is in the operant tradition, and much of what is said in that area is based on the book by the author and D. E. Mintz, Dynamics of Response (New York: Wiley, 1965). There are only 84 references in the bibliography. It is certainly not the usual survey text and seems weak whenever the author gets away from what he knows best.

Pronko, N. H. (Ed.) Panorama of psychology. Belmont, Calif.: Brooks/Cole, 1969. Pp. 532. $5.75 paper.

The book is not a conventional introductory text, nor is it a book of readings. The author had the reader in mind in selecting a broad range of interesting chapters, presenting both empirical material and theoretical issues, and covering such topics as "Some Slants, Perspectives, and Basic Considerations," "The Nervous System and Psychology," "Race," "Heredity," "Instincts," "Conformity," "Personality," "Intelligence," "Cognitive Processes," "Feelings and Emotions," and "Learning." The commonplace and more esoteric theoretical issues are represented. Regarding the latter, more development would sometimes be desirable for the unsophisticated.

To avoid the dullness of a collection of journal articles, Pronko has presented only a few in entirety. Others are excerpted or summarized, and some are rewritten. Material from personal documents and journalistic sources is included. Fellow psychologists also were invited to write short parts specifically for this volume. Sections are introduced and concluded with the author's objectives and summary.

The result is an interesting book that will be provocative for student and teacher alike. It makes no claim for comprehensive coverage of the typical topics of the introductory course, and the instructor is free to choose the book as a basic text or as a supplement to a more traditional presentation.

There are more names and details than some students will like. There are a glossary and a reference list, but the latter includes many items perhaps not readily available in the average high school library. There are no suggested experiments, films, or other aids found in the usual instructor's manual. Although it was not written specifically for use in the secondary school, the book is strongly recommended for consideration by the high school teacher.

Ruch, F. L. Psychology and life. (Brief 7th ed.) Chicago: Scott, Foresman, 1967. Pp. 610. $7.25 cloth; $6.25 paper.

The brief seventh edition contains 14 of the original text's 18 chapters. Chapters omitted are those on mass communication and persuasion, group behavior, the larger amount of detailed material on statistics, and several essays. Ruch includes more speculative material in this edition than in former ones.

There are several organizational flaws that inhibited continuity in the classroom for this reviewer. These include the following: the discussion of personality and personality theory is separated by nine chapters from the treatment of reactions to frustration and abnormal behavior; motivation and emotion are treated in the very last section of the text; there is an awkward breaking-up of material on the biological bases of behavior; e.g., endocrine glands are discussed in two chapters, and muscles and nervous systems are treated in eight different chapters. Truly skillful relationships among chapters are thus dependent on the instructor's skill.

The material within each section is good and well organized. Every effort has been made to represent the discipline fairly with no particular bias. Supplementary materials are ample. They include: (a) a student workbook containing guided reviews and self-tests, a related article with discussion questions, and a simple experiment for each chapter; and (b) an instructor's notebook containing suggested teaching methods, material and resource lists, discussion questions, illustrative research, and films, all correlated with each chapter.

In sum, the book can be used at the high school level, but is probably best utilized with a class of well-motivated, high-achieving, and/or college-bound students.

Sandberg, J. H. Introduction to the behavioral sciences: An inquiry approach. New York: Holt, Rinehart & Winston, 1969. Pp. 344. No price available.

The book was written specifically for high school students in a behavioral sciences course which, the foreword implies, is likely to exist under the guise of social studies.

A decision was apparently made to avoid comprehensive coverage and to focus instead on a few major areas. As a result, there are only seven chapters: "On the Nature of Behavioral Science," "Coming of Age in America," "Adolescence," "The Search for Identity," "Schizophrenia," "Race and Prejudice," and "Frontiers of Behavioral Science." The topics are obviously relevant. The seemingly overly specific chapter on schizophrenia is included with explanations that schizophrenia is only one of many emotional disturbances yet it can serve as a vehicle to illustrate more general points.

Fifty-eight readings are included, and many are heavily condensed. The approach is primarily one of preceding each with questions and accompanying explanations of difficult concepts. Readings are followed with some discussion, some introduction for the next reading, and questions to keep in mind. The readings were carefully chosen and seem well balanced. All of this is designed to implement the "inquiry approach," which the author sees as designed to assist the student in identifying problems, developing hypotheses, and drawing conclusions from evidence.

There is much that is good about the book. It truly could produce a behavioral science perspective. However, it may date very quickly because of its relevance (Chapter 1 will remain good); it assumes a great deal of the teacher, making demands many may not be able to meet; and the language may be too complex for high school students of average ability.

Sanford, F. H., & Wrightsman, L. S. Psychology: A scientific study of man. (3rd ed.) Belmont, Calif.: Brooks/Cole, 1970. Pp. 736. $10.50 cloth.

If one teaches a standard survey course at the college level, this text has to be the one to use. For the usual high school course it is probably too difficult, but for the teacher it could serve as an outstanding source book. Broad in coverage, the text is lucidly written and original in organization within the chapters. It has not only a glossary, references, and an index at the end of the book but also an annotated list of suggested readings at the end of each chapter. Moreover, with each chapter there are reports of recent research on material pertinent to the chapter that should capture the student's current interest. The chapter headings are generally standard, but the last one deserves note; it is entitled "The Psychology of Change" and includes drug therapy, changing prejudicial attitudes, and activism and protest among college students!

Stagner, R., & Solley, C. M. Basic psychology: A perceptual homeostatic approach. New York: McGraw-Hill, 1970. Pp. 698. No price available.

Quoting from the book (p. 14), "We are going to utilize two basic assumptions. They are (1) that behavior can best be explained (described, predicted, and controlled) as a function of how the individual perceives the situation; and (2) that behavior is part and parcel of a complex system which tends toward equilibrium or balance." The perceptual-homeostatic approach represents a particularly unique view of psychology. Most of the traditional areas are covered, but the writing, though generally scholarly, may be too esoteric for high school students. The sensation-perception chapters are good although hampered by the placing of a relevant and very complex chapter on physiological psychology as an appendix; the social chapter on language is spotty; the chapter on memory is somewhat mechanistic; and the chapters on personality are slighted, potentially giving the student a misconception of the total subject matter of psychology.

Although the authors do a commendable job of representing their perceptual-homeostatic approach to all areas of psychology, the high school student might well be better served by a book emphasizing less of a particular approach to the science.

Swartz, P. Psychology: The study of behavior. Princeton, N. J.: Van Nostrand, 1963. Pp. 451. $6.95.

The text would have limited use in the high school. As a resource for the teacher it offers a humanistically oriented behavioral approach. The author has taken scientific principles and applied them to behaviors that are more familiar to the reader's everyday activities.

Telford, C. W., & Sawrey, J. M. Psychology: A concise introduction to the fundamentals of behavior. Belmont, Calif.: Brooks/Cole, 1968. Pp. 306. $7.95 cloth.

In the foreword the authors identify psychology as a biosocial discipline, indicating that they believe they have kept the biological and social aspects in balance. However, almost 30 per cent of the book is devoted solely to physiology and sensation and perception while there is a clearly social orientation in the complex learning chapter.

The authors have attempted to produce a short introduction to psychology, adequate in itself for a one-quarter college course. In so doing they were forced to delete much that is often found in lengthier texts. The major disadvantages are: (a) there are good illustrations for the physiology, sensation, and perception chapters, but a skimpy use of illustrations in most other chapters; and (b) both the simple and complex learning chapters are quite classical in orientation, especially concerning complex human learning and language. Major advantages are: (a) it provides a concise, generally well-balanced introduction to the traditional areas of psychology; and (b) an extensive chapter on "The Biological Basis of Human Behavior" is included that might aid use of the book in connection with a high school biology course.

Vinacke, W. E. Foundations of psychology. New York: Van Nostrand Reinhold, 1968. Pp. 816. $9.75 cloth.

The text is encompassing, rather dry but not heavy in style, and would not be generally acceptable to most of the high school population.

Two aspects, however, are worthy of note and would be useful as outside reference material for the instructor. These are: (a) a chapter on the profession of psychology that serves to put down several commonly held misconceptions and (b) 43 interesting short biographies of well-known past and present psychologists.

A programmed student manual is available, as is a readings book which is very parochial in that nearly half of the articles were written by staff members of the State University of New York at Buffalo.

Whaley, D. L., & Malott, R. W. Elementary principles of behavior. (3rd ed.) Kalamazoo, Mich.: Behaviordelia, 1969. No price available.

The book should really interest students; the style is informal and each chapter contains many excellent examples of the behavioral principle under study taken from real life situations. In fact, this may well be the most relevant textbook in Psychology with a capital "P." Most of the classical content of the typical eclectic introductory course is omitted, and the reviewer feels that the omission may be for the best in the high school.

Important for the teacher is Chapter 22, which describes in detail the way in which the materials have been utilized at Western Michigan University. While few are likely to confront 1,000 students simultaneously, extrapolation to the high school classroom should be relatively easy.

Although the book might require supplementation at the college level, it could stand alone for a one-semester high school course. Since the text presents a specific bias, the teacher should examine it carefully before adoption rather than accept the reviewer's statement.

Whaley, D. L., & Surratt, S. L. Attitudes of science: A program for a student-centered seminar. (3rd ed.) Kalamazoo, Mich.: Behaviordelia, 1970. No price available.

This book is not an introductory psychology textbook, but is a fascinating approach to teaching critical scientific attitudes that might well be considered as part of the introduction to psychology. The prepared materials require 26 class periods for coverage and have been demonstrated to produce considerable shift in student attitudes. To quote the authors:

> The students are presented brief articles which they criticize in terms of the violation of the attitudes of science. An approach combining fading and successive approximation along several dimensions is used.

> It is not recommended that you use this book if you fear the probability of campus controversy for the attitudes which the students learn are sufficiently general that the students will be asking (other instructors) to show them the empirical data resulting from scientific manipulations to substantiate their various causal statements.

As a college professor the reviewer would be very happy to have students in class who had already acquired critical thinking about causal statements. Further, he feels that the non-college-bound student would profit enormously from this book, too.

Whitaker, J. O. Introduction to psychology. (2nd ed.) Baltimore, Md.: Saunders, 1970. Pp. 707. $10.50.

The book is a conventional, omnibus, eclectic text with comprehensive coverage of the traditional topics. An effort has been made to provide continuity between chapters by arranging them in a logical sequence, but any real transition from one chapter to the next must be provided by the instructor.

Both the social and the biological aspects of psychology are presented, with relevant principles of each well documented. The textbook would not be appropriate for the high school unless it were for use with a high-ability college-bound class. The book would be a good source book for the teacher seeking a summary of current findings on the topics covered.

One chapter useful in the more general high school course is the one on "Measurement in Psychology." It is presented in a clear, explanatory fashion without formulas or computations. The basic rationale for the statistical procedures commonly used in descriptive and inferential statistics are presented with the aim of making the student an intelligent consumer of statistics rather than a skilled statistician.

REVIEWS OF BOOKS OF READINGS

Books of readings are a potentially valuable source of information and interest to both student and instructor. Twenty-six such books have been selected for review for use in high school psychology. Readings books in specific areas of psychology have been omitted, and not all general books of readings are reviewed here. No book was reviewed with a publication date earlier than 1962.

The reviewers were asked to address their comments generally to the following criteria:

1. Number of selections.
2. Reading level (appraised specifically for the high school student and ranked easy, moderate, or difficult).
3. Level of sophistication required (ranked low, medium, or high with reference to the high school student).
4. Interest value (to high school students).
5. Unusual features (special characteristics, both good and poor, of the particular volume).
6. Comments (editorially selected from the reviews).

Following is an alphabetical listing of the books of readings and a tabular account of appraisals.

Books of Readings

Banks, C., & Broadhurst, P. L. (Eds.) Stephanos: Studies in psychology. New York: Barnes & Noble, 1965. Pp. 283. $7.50 cloth.

Bartz, W. H. (Ed.) Readings in general psychology. New York: Allyn & Bacon, 1968. Pp. 680. $5.95 paper.

Communications/Research/Machines, Inc. Readings in psychology today. Del Mar, Calif.: Author, 1969. Pp. 529. $16.95 cloth.

Coopersmith, S. (Ed.) Frontiers of psychological research. San Francisco: W. H. Freeman, 1965. Pp. 322. $4.95 paper.

Dambrot, F., & Popplestone, J. A. (Eds.) Readings for general psychology. (Rev. ed.) Dubuque, Iowa: Brown, 1967. Pp. 421. $7.25 paper.

Daniel, R. S. (Ed.) Contemporary readings in general psychology. (2nd ed.) Boston: Houghton Mifflin, 1964. Pp. 417. $4.50 paper.

Dulany, D. E., Jr., Devalois, R. L., Beardslee, D. C., & Winterbottom, M. R. (Eds.) Contributions to modern psychology. (2nd ed.) Fairlawn, N. J.: Oxford University Press, 1963. Pp. 484. $3.75 paper.

Dyal, J. A. (Ed.) Readings in psychology: Understanding human behavior. New York: McGraw-Hill, 1962. Pp. 444. $4.95 cloth; $3.95 paper.

Foss, B. (Ed.) New horizons in psychology. Baltimore, Md.: Penguin Books, 1966. Pp. 447. $1.65 paper.

Guthrie, R. V. (Ed.) Psychology in the world today. Reading, Mass.: Addison-Wesley, 1968. Pp. 387. $4.50 paper.

Guthrie, R. V. (Ed.) Encounter: Issues of human concern. Menlo Park, Calif.: Cummings, 1970. Pp. 306. No price available.

Hartley, R. E., & Hartley, E. L. (Eds.) Readings in psychology. (3rd ed.) New York: Crowell, 1967. Pp. 600. $4.75 paper.

King, R. A. (Ed.) Readings for an introduction to psychology. New York: McGraw-Hill, 1966. Pp. 559. $4.50 paper.

Kintz, B. L., & Bruning, J. L. (Eds.) Research in psychology: Readings for *the introductory course*. Glenview, Ill.: Scott, Foresman, 1970. Pp. 530. $4.50 paper.

McKinney, F. (Ed.) *Psychology in action: Basic readings*. New York: Macmillan, 1967. Pp. 564. $3.95 paper.

Perez, J. F., Sprinthall, R. C., Grosser, G. S., & Anastasiou, P. J. (Eds.) *General psychology: Selected readings*. New York: Van Nostrand, 1967. Pp. 421. $5.95 cloth.

Postman, L. (Ed.) *Psychology in the making: Histories of selected research problems*. New York: Knopf, 1962. Pp. 785. $10.50 cloth.

Pronko, N. H. (Ed.) *Panorama of psychology*. Belmont, Calif.: Brooks/Cole, 1969. Pp. 531. $5.75 paper.

Russell, R. W. (Gen. ed.) *Frontiers in psychology*. Chicago: Scott, Foresman 1964. Pp. 209. $3.95 paper.

Shoben, E. J., Jr., & Ruch, F. L. (Eds.) *Perspectives in psychology*. Glenview, Ill.: Scott, Foresman, 1963. Pp. 178. $3.95 paper.

Spielberger, C. D., Fox, R., & Masterton, B. (Eds.) *Contributions to general psychology*. New York: Ronald Press, 1968. Pp. 375. $4.75 paper.

Teevan, R. C., & Birney, E. (Eds.) *Readings for introductory psychology*. New York: Harcourt, Brace & World, 1965. Pp. 504. $4.95 paper.

Ulrich, R., Stachnik, T., & Mabry, J. (Eds.) *Control of human behavior*. (2 vols.) Chicago: Scott, Foresman, 1966. Pp. 349. No price available.

Vinacke, W. E. (Ed.) *Readings in general psychology*. New York: American Books, 1968. Pp. 500. $5.75 paper.

Wertheimer, M. (Ed.) *Confrontation: Psychology and the problems of today*. Glenview, Ill.: Scott, Foresman, 1970. Pp. 408. $4.95 paper.

Wiesz, P. B. (Ed.) *The contemporary scene*. Hightstown, N. J.: McGraw-Hill, 1970. No price available.

TABLE 1

Reviewer Appraisals of Books of Readings

Books of readings	No. of selections	Reading level	Level of sophistication required	Interest value to high school students	Unusual features	Selected comments from reviews
Banks & Broadhurst: Stephanos: Studies in psychology.	14	Moderate-difficult	High	Questionable	Is a "Festschrift" to Professor Cyril Burt	Is not a typical book of readings for the high school
Bartz: Readings in general psychology.	34	Moderate-difficult	High	Possibly limited to college-bound students	Written to supplement General Psychology by J. Deese	Is appropriate for high school use only
Communications/Research/Machines, Inc.: Readings in psychology today.	69	Moderate	Low-high	Yes	Is a graphic masterpiece, but lengthy and costly	Are no reservations for its use; data are well hidden

TABLE 1 (Continued)

Books of readings	No. of selections	Reading level	Level of sophistication required	Interest value to high school students	Unusual features	Selected comments from reviews
Coopersmith: *Frontiers of psychological research*.	44	Moderate	Low-high	Yes	Draws selections from *Scientific American* from 1948-1964	Covers a wide span of interests from clinical psychology to neurophysiology; occasionally provokes student interest without further references
Dambrot & Popplestone: *Readings for general psychology*.	55	Easy-moderate	Low-medium	Yes	Designed to accompany TV lectures at the University of Akron; a question of availability	Is an atypical selection
Daniel: *Contemporary readings in general psychology*.	68	Easy-difficult	Low-high	Parsimoniously stated findings, little effort to demonstrate relevance	Sources range from *Life* magazine to the *Bulletin of Atomic Scientists*	Contains mainly quite technical reports of empirical psychological research

Dulany et al.: Contributions to modern psychology.	49	Difficult	High	No	Contains mainly reports of empirical research	Is a good resource book for the high school teacher
Dyal: Readings in psychology: Understanding human behavior.	76	Moderate-difficult	High	Doubtful	Includes a number of classics, e.g., Titchener's "Mind, Consciousness and the Method of Psychology"	Has an empirical emphasis of interest to the teacher
Foss: New horizons in psychology.	21	Difficult	High	Interesting but dry	Emphasizes operant conditioning and physiological psychology	Contains no emphasis on application of findings; considerable reliance on the reader to evaluate controversies implicitly or explicitly raised by authors
Guthrie: Psychology in the world today.	61	Moderate	Medium	Yes; great variety of current interest	Presents discussion questions at the end of each unit; some articles are lengthy	Is generally suited for any high school psychology course

TABLE 1 (Continued)

Books of readings	No. of selections	Reading level	Level of sophistication required	Interest value to high school students	Unusual features	Selected comments from reviews
Guthrie: Encounter: Issues of human concern.	27	Moderate	Medium	Yes; unusually appealing	Emphasizes mainly personality and adjustment	Should be of great interest to the 1970 high school student
Hartley & Hartley: Readings in psychology.	57	Moderate	Medium	Yes; many interesting and unusual topics	Emphasizes experimental, physiological, and developmental materials; the introductions to sections and articles are quite brief but generally adequate	Would be an excellent source book for high school teachers; especially well suited for a high school course with a general experimental orientation
King: Readings for an introduction to psychology.	64	Moderate	Medium	Yes; readings are relatively eclectic, rigorously experimental	Designed to parallel the 3rd ed. of Introduction to Psychology by C. Morgan & R. King	Is probably the best large general selection of papers in scientific psychology

Kintz & Bruning: Research in psychology: Readings for the introductory course.	68	Easy-difficult	Low-high	Questionable	Contains a Correlation Chart indicating what readings are suggested for each of the most frequently used texts; each part concludes with an original essay by the authors	Contains papers that are general and often theoretical; probably of little value and interest to the high school student
McKinney: Psychology in action: Basic readings.	65	Easy-moderate	Low-medium	Yes	Emphasizes the application of psychological fact and method	Is a rapprochement between instructor and student interests; a number of articles are dated
Perez et al.: General psychology: Selected readings.	64	Moderate	Medium	Yes	Presents summary statements prior to each section	The teacher would be advised to add to the integrative function of this book
Postman: Psychology in the making: Histories of selected research problems.	12	Difficult	High	Questionable	Presents research background in specific areas	Is of doubtful interest for high school student or teacher

TABLE 1 (Continued)

Books of readings	No. of selections	Reading level	Level of sophistication required	Interest value to high school students	Unusual features	Selected comments from reviews
Pronko: *Panorama of psychology*.	131	Moderate	Medium	Yes	Selections have been excerpted, condensed, and summarized, omitting many of the technical aspects that would bore the reader	Is frankly innovative, interesting, and well written; could almost be used as a text
Russell: *Frontiers in psychology*.	28	Moderate-difficult	Medium-high	Doubtful	Contains an interesting section on "Human Factors in Manned Space Flight"	In general, is not sufficiently appealing in topic coverage
Shoben & Ruch: *Perspectives in psychology*.	14	Moderate-difficult	High	Doubtful	Uses highly empirical language	May bore the high school student who understands the articles

Spielberger et al.: Contributions to general psychology.	48	Moderate-difficult	Medium-high	Doubtful	Designed to parallel Principles of General Psychology by G. A. Kimble & N. Garmezy; primary sources by historical as well as contemporary figures in psychology	Is a potential source book for the high school teacher
Teevan & Birney: Readings for introductory psychology.	51	Moderate-difficult	High	Doubtful	Contains a good selection of articles despite its age	Is too traditional; teacher may select particular articles without blanket adoption
Ulrich et al.: Control of human behavior.	50	Easy, some difficult	Medium-high	Yes	Covers a diversity of areas, but basic theme is behavioral control	While somewhat sophisticated, it could be utilized in some high school classes
Vinacke: Readings in general psychology.	61	Moderate	Medium-high	Yes	Contains some articles written especially for the book	Presents an especially broad coverage; the more mature, sophisticated, able student would profit most

TABLE 1 (Continued)

Books of readings	No. of selections	Reading level	Level of sophistication required	Interest value to high school students	Unusual features	Selected comments from reviews
Wertheimer: Confrontation: Psychology and the problems of today.	49	Moderate	Low-medium	Yes	Emphasizes recent articles that have something to say about the issues confronting our times; has a social psychology theme	Is a short and interesting collection
Wiesz: The contemporary scene.	34	Moderate	Medium	Yes	Emphasizes sociological and anthropological themes	Although readable, articles perhaps are more applicable to sociology or other behavioral sciences

REVIEWS OF LABORATORY MANUALS

The following section contains reviews of 21 laboratory manuals written for the beginning student of psychology. All are potentially useful to the high school teacher as source books, but three, those by Fernald, by Heckman and Fried, and by Jung and Bailey, appear to be appropriate for adoption as a laboratory manual at the high school level if one stipulates that they be eclectic and interesting, require simple, inexpensive, and easy-to-construct apparatus, contain sufficient background material to make them autonomous, and make minimal use of statistical analysis. As the number of constraints is reduced, the number that will recommend themselves increases.

The manuals are classified below by various features that may be of interest.

1. Animal behavior: Ethology--Stokes.
2. Animal suppliers listed: Heckman & Fried; Michael; and Stokes.
3. Brief summaries of classical published research: Ruch et al.
4. Expensive apparatus required: Baker et al. (includes photographs of commercially produced apparatus); Lane & Bem (rat experiments only); Michael; Ost et al. (about one-half require expensive apparatus); and Snellgrove (extensive list of apparatus suppliers).
5. Extensive statistics required and statistical tables given: DeBold; Jung & Bailey; Lane & Bem; Rollin et al.; Shafer; and Snellgrove.
6. How-to-study section: Hershey & Lugo.
7. Human behavior (with most apparatus provided or easy to construct): DeBold; Heckman & Fried; Hergenhahn; Jung & Bailey; Lane & Bem; Ost et al.; Roach et al.; Rollin et al.; Ruch et al.; Shafer; and Snellgrove.
8. Innovative treatments of human behavior: Fernald; Jung & Bailey; Hergenhahn; Homme & Klaus; Ost et al.; Ray; and Snellgrove.
9. Manuals designed to accompany particular textbooks: Hershey & Lugo; and Rollin et al.
10. Material on preparing laboratory reports: Baker et al.; Hergenhahn; Jung & Bailey; Lane & Bem; Ray; and Snellgrove.
11. Operant conditioning: (a) rats--Michael; Homme & Klaus; (b) pigeons --Reese; and (c) humans--Homme & Klaus.
12. Social behavior: (a) humans--Ray; and (b) nonhumans--Stokes.
13. Statement on humane care and treatment of animals: Reese.

Baker, L. M., Weisiger, C., & Taylor, W. M. *Laboratory experiments in general psychology*. New York: Oxford University Press, 1960. $2.25 paper.

The authors state in the preface that "It is assumed that a textbook will be needed to cover experimental psychology and to give the student background information to be used in interpreting his data." Statistical analyses and psychological tests are deliberately avoided. Fairly expensive, commercially constructed apparatus is required in most of the 22 experiments that have as topics classical treatments of human learning, sensory processes, perception, and emotional responses. There are two inclusions some high school teachers might find useful: (*a*) photographs of the aforementioned apparatus; and (*b*) an unusually well-written appendix on the preparation of lab reports based on the APA *Publication Manual*.

Ballachey, E. L. *Study guide with brief research projects for* Individual in society (D. Krech, R. S. Crutchfield, & E. L. Ballachey. New York: McGraw-Hill, 1962. Pp. 564). New York: McGraw-Hill, 1963. $2.95.

Although designed mainly for experiments conducted outside the classroom by individual students, the suggested experiments can be adapted for high school classroom use. Experiments might also be assigned to individual students for extra credit. Extensive and time-consuming data collection and analysis are necessary for most experiments, but problems can be avoided by assigning the job of analysis to student committees. Specifically for social psychology, the manual includes experiments on communication, language, group behavior, and attitude formation and change.

Communication/Research/Machines, Inc. *Involvement in psychology today*. Belmont, Calif.: Author, 1970. $4.95 paper.

Designed to be used with the *Psychology Today* textbook, the manual consists of 35 units arranged in traditional categories. Almost all use human subjects, with one or two employing such animals as the family cat. The emphasis is on illustrations or exercises rather than experiments, and these include both activities to be done in class and activities to be done outside class on the student's own time. The time involved for each unit varies from a few minutes to one class period. Very few materials are needed and a minimal use of statistics is indicated. Each unit is followed by suggested readings that range from highly popularized to highly technical. The section on motivation is especially limited.

Several words of caution seem appropriate. Many of the exercises are likely to convey an oversimplified notion of the process of psychological research, and several are potentially dangerous in the sense that Sunday-supplement personality tests can be dangerous. A good example is found in the exercise that reprints a so-called Alcoholism Test and includes the flat statement that answering three questions "Yes" means that one *is* an alcoholic!

DeBold, R. C. *Manual of contemporary experiments in psychology*. (Prentice-Hall Series in Psychology) Englewood Cliffs, N. J.: Prentice-Hall, 1968. $5.95 paper.

In these 19 exercises in human behavior both positive and negative features are obvious. *On the positive side*, no equipment is required other than a stopwatch; all materials are provided (from a prepared speech for asking a friend to be a subject, to discussion questions); no animal colony is needed; principles of human behavior are illustrated as is some of psychology's methodology; and the journal references are recent. On the negative side, the student experimenters will need the equivalent of a laboratory booth and may have to practice for hours manipulating the flash cards; the level of sophistication required of the student experimenter is high; and many of the experiments come from the area of verbal learning and symbolic processes. Such statistical techniques as means, standard deviations, correlation, and *t* tests are introduced in the first three exercises and are employed throughout the manual, although in some of the experiments, analysis of variance designs would be more appropriate. The experimenter typically collects data from one or two subjects (who may or may not be class members) under one or two conditions, and the data are pooled for statistical analysis. The student would spend from 10 to 30 minutes collecting these data from a single subject. Tables for *t*s and square roots are available in the appendix.

Fernald, L. D., Jr. *Experiments and studies in general psychology*. Boston: Houghton Mifflin, 1965. $2.95 paper.

These 21 units of material designed to supplement general psychology textbooks and readings might well serve as the text and lab manual of a one-semester high school course or as the core material for a two-semester high school course. Included are units on such areas as behavior disorders and sociometric methods as well as standard areas such as learning and psychophysics. The author states that the book was designed "specifically for those general psychology courses for which laboratory apparatus, space and hours are unavailable." The material is clearly presented with questions that should provoke class discussions leading to transfer of material to real life situations. As a whole the book would serve to introduce the high school student to a wide range of psychological topics with an emphasis on human behavior. In the hands of a sensitive teacher the book could serve as a starting point for an exciting, relevant course. An instructor's manual with adequate discussion questions is provided and is *essential* to the understanding of the author's objective. The questions allow the student a broad range of responses that demand discussion to provide positive feedback and direction.

Heckman, B., & Fried, R. *A manual of laboratory studies in psychology*. New York: Oxford University Press, 1965. $2.50 paper.

The book is one of the better general experimental psychology manuals with an emphasis on human behavior. Procedures for each study are clearly presented and minimal equipment is required. The exercises are unusually interesting and begin with a short but clear comprehensive review of relevant background material. Data sheets and discussion questions are provided for all exercises. Only humans and rats are used as subjects. The exercises are designed to fit into a two-hour lab period but many require only 30 to 60 minutes for data collection. Outstanding attributes of the manual include: (*a*) "DO NOT READ" printed across some pages so that class members can serve as naive subjects; (*b*) a thorough appendix for the instructor, listing equipment suppliers and giving diagrams for the equipment to be constructed: (*c*) addresses of rat suppliers; and (*d*) division of the 30 exercises into nine topic units. Since the nine topic units are autonomous, high school teachers may omit those units not relevant to their particular course's orientation. The set of three studies in experimental methodology provides a sufficient introduction to statistics for any high school course, but coverage of this unit is not a necessary prerequisite for the other eight units, in which a minimal amount of calculation is required.

Hergenhahn, B. R. *A self-directing introduction to psychological experimentation*. Belmont, Calif.: Brooks/Cole, 1970. $6.95 paper.

After a self-directing introduction there are 30 experiments, some more interesting than others. Of the 30, 12 use human subjects; no technical equipment is required for these and all can be completed in less than an hour. There is a programmed chapter on statistics and a unit on the writing of experimental reports. Each experiment has an introduction, discussion questions, and a bibliography of suggested readings.

Hershey, G. L., & Lugo, J. *Handbook for* Living psychology. (Workbook to accompany Hershey & Lugo's *Living psychology*) New York: Macmillan, 1970. $3.95.

If one is concerned with the smuggling of values into the classroom, the attempt will be apparent here and may tempt the teacher to pose a countervailing set. The handbook should help the student prepare for examinations, and the teacher might get some good ideas for presenting a section on how to study.

Homme, L. E., & Klaus, D. J. *Laboratory studies in the analysis of behavior: A manual of operant conditioning procedures for students in behavioral psychology*. (2nd ed.) New York: Westinghouse Learning Corp., 1970. No price available.

Although neobehavioristic in orientation, the manual can be used in an introductory psychology course. The first of three parts of the manual is devoted to a series of 10 studies that demonstrate such classical phenomena as shaping, extinction, secondary reinforcement, and chaining. While the authors state that each exercise takes about two hours to complete, many require more time. Part 2 deals with the operant conditioning of human subjects and nicely takes care of the question so often raised by students concerning whether or not rats are people! Part 3 succinctly discusses experimental design and data analysis in a low-level fashion that should not yield trembling responses from anyone ordinarily encountering difficulties in these matters. The reviewer, having used the manual as both student and teacher, feels it would be entirely appropriate for most high school courses in psychology. Equipment needs are minimal, and what apparatus construction is required is described in detail.

Jung, J., & Bailey, J. *Contemporary psychology experiments: Adaptations for laboratory*. New York: Wiley, 1966. $3.95.

Fifteen experiments are drawn from contemporary research reports with a deliberate effort to avoid traditional topics such as psychophysics and verbal learning. While experiments were pretested by authors and found to yield "analyzable results," they admittedly involve some risk, a factor that might prove exciting to the relatively sophisticated high school teacher. Authors aim "not only to demonstrate phenomena, but also to allow the student to discover the effects of an experimentally manipulated variable." This departure from pat classical treatments of human behavior is commendable. The materials needed are included in the manual and detailed suggestions on how to have students collect data and how to record it for easy duplication are given. The To the Student section is above average as is the Guide for Writing Experimental Reports, which is based on the APA *Publication Manual*. The exercises themselves require an hour or less to perform and contain background material. The presentation of the details of procedure is clear and includes verbatim instructions to be read to the subject. Discussion questions and reference materials are given.

For a high school course focusing on a strict empirical treatment of human behavior this is one of the manuals that could feasibly be adopted *in toto*. It would require that the teacher have some knowledge of sound experimental techniques and know something about the topics covered. In some cases the statistical analysis suggested may be too advanced for high school students.

Lane, H., & Bem, D. *A laboratory manual for the control and analysis of behavior*. (Basic Concepts in Psychology Series) Belmont, Calif.: Wadsworth, 1965. $4.50 text.

The four rat experiments require more sophisticated equipment than one would expect to be ordinarily available in the high school. The seven human experiments, which are separable from the rat experiments, require no apparatus other than such things as the stimulus words provided in the manual itself. There are good sections on the preparation of lab reports and methods for depriving rats, and complete data sheets are included. Instructions are clearly stated but require prior knowledge of the topic by both students and teachers. The programmed section on logarithms and decibels is a prerequisite to the section on statistics and psychophysics and may be too advanced for high school usage. While some of the human studies might be adaptable for high school use, they are not the most innovative or interesting available.

Michael, J. *Laboratory studies in operant behavior*. New York: McGraw-Hill, 1963. $3.95.

The manual was designed for a college freshman-level course in conjunction with the *Analysis of Behavior* by Holland and Skinner. Michael imagines each student with his own individual operant station, and the exercises are designed to be conducted for two hours five days a week for two weeks. The book is tied so closely to commercially constructed equipment (e.g., that of Gerbrands or Davis) that many of the detailed procedural instructions would otherwise be inappropriate. The high school instructor might find the book useful as a source of demonstrations, and there is at the end of the introduction a partial list of suppliers of equipment, rats, rat housing, food, and timers.

Ost, J. W. P., Allison, J., Vance, W. B., & Restle, F. *A laboratory introduction to psychology*. New York: Academic Press, 1969. $4.25.

The experiments with rats and the five experiments on human sensory processes require equipment not ordinarily available to high school teachers. The eight experiments in human learning and performance can be used separately and do not require expensive and complicated apparatus. All eight of these experiments are interesting and, with the possible exception of the two game experiments, are easy to perform. Adequate data sheets are included. In all cases, however, the teacher would need to know more about the topic and about the treatment of data and their implications than is given in the manual itself.

Ray, W. S. *A laboratory manual for social psychology*. (American Psychology Series) New York: American Book Co., 1951. No price available.

The manual is probably better as an idea book for the high school teacher than as a lab manual to be purchased by the student. The introduction to the student is excellent and could be used by high school teachers in general psychology. In this introduction standard terminology of experimental psychology (e.g., *E*, *S*) are presented, and instructions on preparing graphs and tables and writing lab reports are clearly provided. Data sheets are provided for all exercises, and the exercises are uniform in format. Length of time to perform the exercises varies, and most require the student to collect data from several subjects who are not members of the class. While the book is almost 20 years old, many of the topics (e.g., communism, religious attitudes, conformity) are potentially relevant today.

Reese, E. P. *Experiments in operant behavior*. (Century Psychology Series) New York: Appleton-Century-Crofts, 1964. $5.25.

The manual is more than just an expanded pigeon-using version of the Homme and Klaus manual. It is carefully--almost too carefully--planned for use not only in a one-semester two-hour twice-weekly lab meeting but also for shorter (trimester) periods. It answers the frequent criticism that the student is given no information concerning care, handling, and biological nature of the subject. Further, lists of equipment (both necessary and optional) and suppliers and directions for homemade apparatus are supplied. In addition, the manual contains an explication of the rationale for operant-conditioning experimentation, as well as the APA statement "Guiding Principles for the Humane Care and Use of Animals." Given that a high school curriculum in psychology or biology includes two two-hour-per-week laboratories, this manual would be an appropriate choice for the high school course in psychology. It could also serve as a source for demonstrations conducted by the teacher.

Roach, J. H. L., Sherman, B., & Roach, P. P. *Experiments in general psychology*. New York: Harper & Row, 1965. $4.75 paper.

The manual contains 30 "experiments" (the first is an introduction to experimental design in two paragraphs). All are designed for use with humans. The instructions for each are extremely sketchy and probably inadequate, and equipment is described in one or two sentences. While many exercises do not involve elaborate equipment, some do demand more than the typical high school setting is likely to provide and all assume a degree of familiarity on the par of the instructor. The whole manual puts a great deal of responsibility on th instructor, provides essentially no lead-in material at all, and then follows each exercise with "discussion" sheets with questions at the level of "describ the significance of your results." The manual reads as if it were designed to be part of a package involving a closely integrated text that would put some o the material in context, but it seems in fact to have been prepared to stand alone. The studies are prosaic and uninvolving.

Rollin, A. R., Smith, J., & Wilson, A., Jr. *Workbook and laboratory manual*. (To accompany Krech, Crutchfield, & Livson, *Elements of psychology*, 2nd ed.) New York: Knopf, 1969. No price available.

The workbook contains a collection of 28 short (about one hour maximum) experiments that require apparatus no more complex or expensive than a stopwatch or tape measure. Most of the experiments require a large number of subjects and emphasize data analysis that may be too advanced for the high school student. In addition, follow-up studies would be difficult to formulate and design. Only about one-third of the book is devoted to lab exercises, with th remainder comprising discussion material and multiple-choice questions tied closely to the Krech, Crutchfield, and Livson text, as are the lab exercises. Thus, the book is likely to be useful to the high school teacher only as a source book for ideas for lab exercises, not as a manual to be purchased by the students.

Ruch, F. L., Warren, N., & Gorfein, D. S. Working with psychology. (Brief 7th ed.) Chicago: Scott, Foresman, 1967. $2.50 paper.

The volume contains two sections per chapter of use to the high school teacher: Studies of Experimental Method and Student Experiments. Studies of Experimental Method consists of interesting one-page summaries of classical published research. Analysis questions and suggested readings for each study are included and may be the only material of this type readily available for high school use. Student Experiments would be useful on the high school level provided that time spent on analysis of data was cut to a minimum. Most experiments would take an entire class period. Apparatus used include such things as stopwatches and nose plugs. Two experiments use tests (the Employee Aptitude Survey and the Guilford-Zimmerman Interest Inventory) that might not be readily attainable by all high school teachers. An instructor's manual is available.

Shafer, J. N. Laboratory exercises in psychology. New York: Holt, Rinehart & Winston, 1965. $4.25.

The manual is comprised of 11 exercises using only human subjects. There is essentially no equipment needed. Data collection or demonstration takes less than one hour per exercise. The 11 exercises are so interrelated that the high school teacher would have to take all or none. If the teacher accepts the manual, the lab work will be essentially limited to statistics, learning, sensory processes, and psychophysics. It could be finished in one semester. The introduction provides an excellent coverage of the scientific method. Each exercise begins with simple response measurement and statistical description and then advances to hypothesis testing and statistical inference. The topical material is so clearly and thoroughly presented as to preclude the necessity of lectures. The instructions are precise, data sheets are provided, and discussion questions are clearly given. The chief disadvantages of using this manual in high school are: (a) its topics cannot be easily separated from each other; (b) the statistical techniques are more sophisticated than necessary for most courses at this level; and (c) the exercises are not particularly interesting or relevant to the 1970s but rather consist of such classics in psychology as mirror drawing, memorizing nonsense syllables, and measuring reaction time. Had interesting and timely topics been treated by the author, an ideal lab manual for the high school course could have resulted.

Snellgrove, L. Psychological experiments and demonstrations. New York: McGraw-Hill, 1967. $3.95.

Section 1 on statistics may be too advanced for high school usage. Section 2 on how to design and report experiments includes a bibliography of psychological and related journals. Section 3 contains the experiments, which are mostly on sensory processes and perception. The 25 relatively short (one hour or less for data collection) experiments are designed to be conducted with equipment that can be made or purchased with a limited budget. The topics range from very interesting to very common. Procedures for conducting the experiments are detailed, but no related material is given other than bibliographical references. A section on where to get apparatus is included as well as an appendix of statistical tables. This manual would thus serve a high school teacher well as a source book. It could also provide some short experiments in the limited topic areas indicated but may not be appropriate as a manual for the high school student to purchase.

Stokes, A. W. Animal behavior in laboratory and field. San Francisco: W. H. Freeman, 1968. No price available.

The manual is appropriate for usage in high school courses in both psychology and biology. It uses a wide variety of nonhuman subjects and includes ethological studies as well as laboratory experiments. The 42 exercises are by different authors who submitted their work to a committee of the Animal Behavior Society for selection. The length of time required to perform the exercises varies greatly. Although the instructor's manual provides some data on sources of subjects and their care, some previous knowledge of the subjects is necessary in most cases. Equipment needed is usually minimal, but data such as exact dimensions of material to be constructed are sometimes omitted.

PSYCHOLOGICAL JOURNALS FOR THE HIGH SCHOOL

Adequate library holdings (books and journals) are essential supports for good teaching. At the least they are aids to the teacher in preparing for classes and for outside work by students. For more enterprising students who wish to follow interesting leads beyond the basic assignments some variety is necessary.

Considering spatial and budgetary limitations, careful selection is essential. Examination of a publication for suitability might be desirable before ordering. A copy may be available in a local college or public library, or a publisher may be willing to supply a sample for examination purposes.

For a fee of $1.00 a teacher may have affiliate status in Division 2 (Division on the Teaching of Psychology) of the American Psychological Association, entitling him to receive the quarterly Newsletter. Also, high school teachers of psychology are invited to become affiliates of APA. Five dollars of the membership fee of $7.50 may be applied toward journal subscriptions at member rates (one-half of the regular rates).

The selection of journals that follows was made from those published by APA, those offered members of APA at special rates, and a few selected for special reasons. (It is possible that some publishers make their journals available to high school libraries at lower rates than those indicated in the following table.) Using criteria of cost and suitability for the high school audience, we have noted 10 for attention ([a]) but offered brief descriptions for all. Familiarity with certain publications and special orientations may suggest other preferences.

No attempt was made to survey more popular sources. Some of these reports are quite good and interesting; others may be used as "bad examples." For a listing of additional journals and more detailed descriptions, see T. R. Sarbin & W. C. Coe, The Student Psychologist's Handbook: A Guide to Sources (New York: Harper & Row, 1969).

TABLE 2

Descriptions of Psychological Journals

Journal name and address for subscription orders	Issues per year	Cost (in dollars)			Reading level	Typical article length (in pages)	Description
		Library	Individual	Student			
Adolescence Libra Publishers, Inc., P. O. Box 165, 391 Willets Rd., Roslyn Heights, N. Y. 11577	4	10.00			Low-medium	8-20	Wide range of topics, including adolescence
American Journal of Orthopsychiatry American Orthopsychiatric Association, Publication Sales Office, 49 Sheridan Ave., Albany, N. Y. 12210	5	12.00			Medium		Concern is with human behavior and treatment of behavior disorders
American Journal of Psychology University of Illinois Press, Urbana, Ill. 61801	4	10.00			Medium-high	6-12	Reports of original research in general experimental psychology and short notes, discussions, and book reviews

[a] Rated by a small group (N = 8) of psychologists as being useful and economical for the high school library.
[b] Special rate for the high school library or teacher is $4.00 per year.

American Psychologist[a] American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	10.00			Low-medium	1-6	The official publication of the APA containing archival documents, comments, a Psychology in Action section, Convention Calendars, and regular articles
Child Development[a] University of Chicago Press, 5750 Ellis Ave., Chicago, Ill. 60637	4	20.00			Medium	10-20	Empirical reports and theoretical papers relating to basic issues in development
Contemporary Psychology[a] American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	10.00			Low-medium	1-2	Critical reviews of books, films, and research material in the field of psychology
Developmental Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	6	20.00			Medium	1-8	Chronological age as well as sex, socioeconomic status, and effects of physical growth variables are all considered developmental variables for the entire age span and for retardate and cross-species comparisons
Educational and Psychological Measurement P. O. Box 6907, College Station, Durham, N. C. 27708	4	14.00			Medium-high	8-16	Discussions of problems in the field of measurement of individual differences, reports on research in development, and use of tests and testing programs for various purposes

TABLE 2 (Continued)

Journal name and address for subscription orders	Issues per year	Cost (in dollars)			Reading level	Typical article length (in pages)	Description
		Library	Individual	Student			
Genetic Psychology Monographs Journal Press, 2 Commercial St., Provincetown, Mass. 02657	4	20.00			Medium	20-50	Developmental, comparative, and clinical psychology; each number contains one or more complete researches
Journal of Abnormal Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	6	20.00			Medium	6-10	Basic research and theory in the broad field of abnormal behavior, its determinants and its correlates
Journal of Applied Behavioral Analysis[a] Department of Human Development, University of Kansas, Lawrence, Kan. 66044	4	16.00	8.00	4.00	Medium	4-8	Applications of operant conditioning principles to problem behavior and teaching techniques
Journal of Applied Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	6	10.00			Medium	6-10	Applications of psychology in business and industry

Journal of Biological Psychology/The Worm Runner's Digest University of Michigan, Ann Arbor, Mich. 48103	4	4.00			Low-medium	1-6	Papers and book reviews in biological psychology and humorous articles and cartoons
Journal of Comparative & Physiological Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	40.00			Medium-high	6-10	Research reports in the fields o physiological and comparative psychology
Journal of Consulting and Clinical Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	6	20.00			Medium	4-8	Research in clinical psychology, psychological diagnosis, psychotherapy, and personal psychopathology
Journal of Educational Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	6	10.00			Medium	6-10	Original investigations and theoretical papers dealing with problems of learning, teaching and the psychological development of relationships, and adjustment of the individual
Journal of the Experimental Analysis of Behavior Kay Dinsmoor, Department of Psychology, Indiana University, Bloomington, Ind. 47401	6	16.00	8.00	4.00	Medium-high	1-16	Primarily experiments relevant to the behavior of individual organisms; operant conditioning

TABLE 2 (Continued)

Journal name and address for subscription orders	Issues per year	Cost (in dollars)			Reading level	Typical article length (in pages)	Description
		Library	Individual	Student			
Journal of Experimental Child Psychology Academic Press, Inc., 111 Fifth Ave., New York, N.Y. 10003	6	24.00	10.00		Medium	6-12	Papers in which the behavior and development of children are clearly related to their determining variables
Journal of Experimental Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	40.00			High	4-10	Experimental investigations intended to contribute toward the development of psychology as an experimental science; studies with normal human subjects favored over those involving abnormal or animal subjects
Journal of Experimental Research in Personality Academic Press, Inc., 111 Fifth Ave., New York, N. Y. 10003	4	18.00	9.00		Medium-high	6-12	Experimental studies in the field of personality with treatment of general, physiological, motivational, learning, perceptual, cognitive, and social processes

Journal of Experimental Social Psychology Academic Press, Inc., 111 Fifth Ave., New York, N. Y. 10003	4	25.00	10.00		Medium-high	6-12	Current research in various areas of social psychology
Journal of General Psychology Journal Press, 2 Commercial St., Provincetown, Mass. 02657	4	20.00			Medium	4-16	Experimental, physiological, and theoretical psychology with briefly reported replications, refinements, and comments
Journal of Genetic Psychology Journal Press, 2 Commercial St., Provincetown, Mass. 02657	4	20.00			Medium	6-10	Developmental, comparative, and clinical psychology with briefly reported replications and refinements and occasional book reviews
Journal of Personality Duke University Press, P. O. Box 6697, College Station, Durham, N. C. 27708	4	6.50			Medium	10-15	Scientific investigations in the field of personality; current stress is on experimental studies of behavior dynamics and character structure, personality-related consistencies in cognitive processes, and development of personality in its cultural context
Journal of Personality and Social Psychology American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	30.00			Medium	4-12	Theoretical and research papers on personality dynamics, group processes, attitude change, social influence, etc.

TABLE 2 (Continued)

Journal name and address for subscription orders	Issues per year	Cost (in dollars)			Reading level	Typical article length (in pages)	Description
		Library	Individual	Student			
Journal of Psychology Journal Press, 2 Commercial St., Provincetown, Mass. 02657	6	30.00			Medium	4-16	Broad subject coverage
Journal of Social Issues Society for the Psychological Study of Social Issues, 2500 State St., Ann Arbor, Mich. 48106	4	9.00	7.00		Low-medium	4-20	Issues typically organized around a single theme or topic, seeking to bring theory and practice into focus on human problems of the group
Journal of Social Psychology Journal Press, 2 Commercial St., Provincetown, Mass. 02657	6	30.00			Medium	6-10	Studies of persons in group settings and of culture and personality; special attention to cross-cultural articles and notes and to briefly reported replications and refinements
Merrill-Palmer Quarterly Merrill-Palmer Institute, 71 E. Ferry Ave., Detroit, Mich. 48202	4	4.00			Low-medium	4-12	Papers representing the various disciplines bearing on human development, personality, and social relations

Perceptual & Motor Skills P. O. Box 1441, Missoula, Mont. 59801	6	40.00			Medium	4-12	Experimental, methodological, and theoretical articles dealing with perception or motor skills
Personnel and Guidance Journal American Personnel and Guidance Association, 1605 New Hampshire Ave., N.W., Washington, D. C. 20009	10	15.00			Medium	4-8	Articles directed to the common interests of counselors and personnel workers at all educational levels and dealing with professional and scientific issues, critical integrations of published research, and descriptions of new techniques
Psychological Abstracts American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	130.00			Medium	One paragraph	Noncritical abstracts of the world's literature on psychology and related subjects
Psychological Bulletin American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	12	20.00			Medium-high	6-12	Evaluative reviews of research literature in psychology; reviews and interpretations of substantive and methodological issues
Psychological Record[a] Denison University, Granville, Ohio 43023	4	10.00[b]	6.00[b]	4.00	Medium-high	1-10	Theoretical and experimental articles, comments on current developments in psychology, and book reviews

TABLE 2 (Continued)

Journal name and address for subscription orders	Issues per year	Cost (in dollars)			Reading level	Typical article length (in pages)	Description
		Library	Individual	Student			
Psychological Reports P. O. Box 1441, Missoula, Mont. 59801	6	40.00			Medium	4-10	Experimental, theoretical, and speculative articles; comments and special reviews
Psychological Review American Psychological Association, 1200 Seventeenth St., N.W., Washington, D. C. 20036	6	10.00			High	10-20	Articles of theoretical significance to any area of scientific endeavor in psychology
Psychology in the Schools Clinical Psychology Publishing Co., Inc., 4 Conant Square, Brandon, Vt. 05733	4	15.00			Medium	6-12	Research, opinion, and practice in the field of school psychology
Psychology Today[a,b] P. O. Box 2990, Boulder, Colo. 80302	12	10.00			Low-medium	2-6	Popular and serious articles covering a wide variety of topics and book reviews
Psychonomic Science Psychonomic Journals, Inc., 1200 W. 34th St., Austin, Texas 78705	6	50.00	25.00		Medium-high	1-2	Reports of experimental studies in all behavioral areas

Science[a] American Association for the Advancement of Science, 1515 Massachusetts Ave., N.W., Washington, D. C. 20005	52	12.00			Medium-high	1-10	Papers (articles and brief technical reports) from all sciences, along with book reviews, science news, letters, and editorials
Scientific American[a] 415 Madison Ave., New York, N. Y. 10017	12	10.00			Low-medium		Articles, book reviews, letters, and other short notes representing all sciences
Teaching of Psychology Newsletter[a] (Division 2) Wilbert Ray, Secretary, Bethany College, Bethany, W. Va. 26032	4	1.00			Low	1	Division 2 of the APA includes members who consider teaching as a scientific interest; its Newsletter serves as a means of exchanging ideas, including notions regarding the teaching of psychology
Trans-action[a] P. O. Box A, Rutgers--The State University, New Brunswick, N. J. 08903	12	8.50			Low-medium	1-10	Articles, comments, and book reviews in the social sciences representing not only our own but other cultures

NOVELS, CASE STUDIES, BIOGRAPHIES, AND OTHER POPULAR BOOKS

The purpose of this bibliography is to provide the high school student with a list of books related to psychology that will be appealing and fairly easy to read. The list is limited to nontechnical material. With few exceptions, the books are available in paperback. Even in those instances that a cloth edition is noted, it is possible that the publication is available in paperback from another publisher. Paperbacks in Print is a readily available source for addresses of publishers.

Abnormal Behavior and Treatment

Beers, C. W. A mind that found itself. Garden City, N. Y.: Doubleday, 1948. Pp. 411. $6.50 cloth.
Autobiography of Clifford Beers, founder of mental hygiene movement in the United States; an account of his experiences as a patient in various mental hospitals in the early 1900s and his recovery from mental illness.

Brand, M. Savage sleep. New York: Crown, 1968. Pp. 465. $6.95 cloth. (Bantam Books, $1.25 paper.)
A novel about treating psychotics with the techniques of John Rusen.

Capote, T. In cold blood. New York: New American Library, 1966. Pp. 343. $1.25 paper.
In-depth account of psychopaths.

Fitzgerald, F. S. Tender is the night. New York: Scribner, 1934. Pp. 408. $1.25 paper.
A novel about mental illness, including a fictionalized description of therapy with Carl Jung.

Frankl, V. Man's search for meaning. Boston: Beacon Press, 1962. Pp. 142. $ .60 paper.
Description of a psychiatrist's experiences in a German prison camp and his conclusions about the need for meaning in life.

Freeman, L. Fight against fears. New York: Crown, 1951. Pp. 332. (Pocket Books, $. 75 paper.)
A description of the author's own orthodox Freudian psychoanalysis.

Freeman, L. Before I kill more. New York: Award Books, 1966. Pp. 316. $ .75 paper.
A fictionalized account of the William Heiren's case (a University of Chicago student who murdered several people in the 1940s); detailed description of family background factors, etc.

Freud, S. Psychopathology of everyday life. New York: Norton, 1952. $2.45 paper.
Many good examples of unconscious motivation.

Freud, S. Interpretation of dreams. New York: Avon Books, 1954. $1.65 paper.

Grant, V. This is mental illness: How it feels and what it means. Boston: Beacon Press, 1963. Pp. 210. $1.75 paper.
Case studies.

Green, H. I never promised you a rose garden. New York: New American Library, 1964. Pp. 300. $ .95 paper.
A novel about a schizophrenic girl in an expensive private hospital.

Hoffman, M. The gay world: Male homosexuality and the social creation of evil. New York: Basic Books, 1968. Pp. 212. $5.95 cloth. (Bantam Books, $1.25 paper.)

Life among San Francisco homosexuals.

Huxley, A. Devils of Loudon. New York: Harper, 1952. Pp. 340. No price available.

Medieval conceptions of emotional illness.

Kaplan, B. (Ed.) Inner world of mental illness: First person accounts of what it was like. New York: Harper & Row, 1964. Pp. 467. $5.75 paper.

Accounts, many by famous people, of their own emotional disturbances.

Kesey, K. One flew over the cuckoo's nest. New York: New American Library, 1962. Pp. 311. $ .75 paper.

Life in a mental institution; points up manner in which many institutions reinforce behaviors that will keep the patient in the hospital and punish those that would help him maintain himself outside.

Levin, M. Compulsion. New York: Holt, Rinehart & Winston, 1954. Pp. 495. (Signet, $ .75 paper.)

A novel about the Leopold-Loeb murder case, one of the first in which psychological test data were used as part of the defense.

Lindner, R. M. The fifty minute hour. New York: Bantam Books, n.d. Pp. 293. $ .95 paper.

A collection of five psychoanalytic cases.

Rubin, T. I. Jordi/Lisa and David. New York: Ballantine Books, 1968. $ .75 paper.

Interpersonal relationships in a mental hospital.

Thigpen, C. H., & Cleckley, H. M. Three faces of Eve. New York: McGraw-Hill, 1957. Pp. 308. (New York Popular Library, $ .75 paper.)

Study of multiple personality.

Vidal, G. The city and the pillar. New York: New American Library, 1965. Pp. 249. $ .75 paper.

A description of the development of a homosexual life style.

Watts, A. W. Psychotherapy East and West. New York: Ballantine Books, 1961. Pp. 204. $ .95 paper.

Religious differences between Eastern and Western society and their influence on psychotherapy.

White, R. Lives in progress. New York: Holt, Rinehart & Winston, 1966. Pp. 422. $4.95 paper.

Case studies of young adults.

Adolescent Development

Evans, J. Three men. New York: Grove Press, 1963. Pp. 297. $1.25 paper.

Three case studies dealing with problems pertinent to child and adolescent behavior.

Ginott, H. Between parent and teenager. New York: Macmillan, 1969. Pp. 256. $4.95 cloth.

Guidelines for parents rearing adolescents.

Golding, W. Lord of the flies. New York: Putnam, 1959. Pp. 256. $1.25 paper.

A novel about aggressive social behavior among adolescents.

Konopka, G. The adolescent girl in conflict. Englewood Cliffs, N. J.: Prentice-Hall, 1966. Pp. 177. $1.95 paper.

Delinquency in girls.

Parks, G. The learning tree. Greenwich, Conn.: Fawcett Press, 1963. Pp. 303. $ .75 paper.

Biography of an adolescent black growing up in a small Kansas town; author is a renowned black photographer.

Salinger, J. D. Catcher in the rye. Woodbury, N. Y.: Barron, 1951. Pp.

277. $1.00 paper.
Contemporary and timeless classic about an adolescent boy.

Child Development

Axline, V. M. Dibs: In search of self. New York: Ballantine Books, 1966. Pp. 186. $ .75 paper.
An example of the use of client-centered play therapy to treat an emotionally disturbed child.

Baruch, D. W. One little boy. New York: Dell, 1952. Pp. 242. $1.85 paper.
An account of what a psychologist learned about a severely disturbed eight-year-old and his parents; an example of psychoanalytic play therapy.

Bettelheim, B. Paul and Mary: Two case histories from truants from life. Garden City, N.Y.: Doubleday, 1961. Pp. 445. $1.75 paper.
Rehabilitation of emotionally disturbed children.

Bettelheim, B. The empty fortress. New York: Free Press, 1967. Pp. 484. $9.95 cloth.
Three case sudies of autistic children, a section on "wolf" children, and a discussion of the literature on infantile autism; a psychoanalytic interpretation of autism.

Church, J. (Ed.) Three babies: Biographies of cognitive development. New York: Random House, 1966. Pp. 323. $ .95 paper.

Fraiberg, S. The magic years. New York: Scribner, 1968. Pp. 305. $2.75 paper.
Description of emotional development in childhood.

Gibson, W. The miracle worker. New York: Knopf, 1957. Pp. 131. $4.50 cloth. (Pathfinder Bantam Books, $ .60 paper.)
An account of the use of discipline in teaching Helen Keller.

Ginott, H. Between parent and child. New York: Macmillan, 1965. Pp. 223. $4.95 cloth. (Avon Books, $1.25 paper.)
Child management manual.

Comparative and Animal

Ardrey, R. African genesis. New York: Dell, 1961. Pp. 380. $ .95 paper.
A personal investigation into the animal origins and nature of man.

Ardrey, R. Territorial imperative. New York: Dell, 1966. Pp. 390. $2.45 paper.
Origins of aggressive behavior.

Hayes, C. The ape in our house. New York: Harper, 1951. Pp. 247. No price available.
An attempt to raise an ape as a child; famous study of "Vicki."

Lilly, J. C. The mind of the dolphin. New York: Avon Books, 1969. Pp. 310. $ .95 paper.
Nonhuman intelligence as seen both by scientists and owners.

Lorenz, K. On aggression. New York: Harcourt, Brace & World, 1966. Pp. 306. $5.95 cloth. (Bantam Books, $1.45 paper.)
Origins of aggressive behavior; primarily about animals.

Morris, D. The naked ape. New York: Dell, 1969. Pp. 252. $ .75 paper.
An attempt to show man as not very different from lower primates.

Drugs

Chaplin, M. I couldn't smoke the grass on my father's lawn. New York: Bal-

lantine Books, 1969. Pp. 173. $ .60 paper.
A young man and his experience with LSD.

Farina, R. Been down so long it looks like up to me. New York: Random House, 1966. Pp. 329. $5.95 cloth. (Dell, $ .75 paper.)
Contemporary youth/drug scene.

Huxley, A. Doors of perception: Heaven and hell. New York: Harper & Row, 1954. Pp. 79. $1.45 paper.
Huxley's own experiences under drugs, including LSD and peyote.

Newland, C. A. Myself and I. New York: New American Library, n.d. Pp. 228. $ .75 paper.
The record of one woman's experiment with LSD.

Learning and Testing

Burgess, A. A clockwork orange. New York: Norton, 1963. $1.45 paper.
Conditioning in the real world.

Gross, M. Brain watchers. New York: Random House, 1962. Pp. 304. $4.95 cloth.
An attack on the psychological testing movement.

Hoffman, B. Tyranny of testing. New York: Collier, 1962. $ .95 paper.
An attack on testing; presents potential dangers from poorly constructed tests or from misused test data.

Kozol, J. Death at an early age: The destruction of the hearts and minds of Negro children in the Boston public schools. Boston: Houghton Mifflin, 1967. Pp. 240. $5.95 cloth. (Bantam Books, $ .95 paper.)
Teaching of black children.

Neill, A. S. Summerhill. New York: Hart, 1961. Pp. 392. $1.95 paper.
Description of the famous school and its radical approach to teaching and child rearing.

Mental Retardation

Buck, P. S. The child who never grew. New York: John Day, 1950. Pp. 62. $2.95.
Personal account of Pearl S. Buck's mentally retarded child.

Keyes, D. Flowers for Algernon. New York: Harcourt, Brace & World, 1966. Pp. 274. $5.75 cloth.
Book on which the movie "Charlie" was based; an attempt to cure mental retardation.

Nicholas, P. Joe Egg. New York: Grove Press, n.d. $1.75 paper.
Adjustments within a family to a mentally retarded son.

Seagoe, M. V. Yesterday was Tuesday all day and all night. Boston: Little, Brown, 1964. Pp. 229. $5.00 cloth.
Education of a mongoloid.

Steinbeck, J. Of mice and men. New York: Scribner, 1963. Pp. 186. $1.25 paper.
Depiction of the eventual antisocial behavior of a mental retardate.

Wilson, L. This stranger, my son. New York: New American Library, 1968. Pp. 247. $ .95 paper.
Account of a retarded child.

Motivation

Packard, V. The hidden persuaders. New York: Pocket Books, 1957. Pp. 275. $ .75 paper.

Motivational aspects of advertising.

Social Behavior

Baldwin, J. *The fire next time*. New York: Dell, 1963. Pp. 120. $ .50 paper.

Group frustrations of blacks.

Berne, E. *Games people play*. New York: Grove Press, 1964. Pp. 192. $1.25 paper.

Discussion of social strategies, pointing out the game-playing nature of many human behaviors.

Huxley, A. *Brave new world and brave new world revisited*. New York: Harper & Row, 1932-1958. $2.45 paper.

A novel which is one of the first attempts to look at the social implications of behavior-control procedures.

Koestler, A. *Darkness at noon*. New York: Modern Library, 1941. Pp. 267. $2.69 paper.

Novel depicting life in a prison and changes in thought patterns during a revolution.

Malcolm X & Haley, A. *Autobiography of Malcolm X*. New York: Grove Press, 1966. $1.25 paper.

Societally induced changes in values in one man's life.

Mitford, J. *The American way of death*. Greenwich, Conn.: Fawcett Press, 1963. Pp. 333. $ .95 paper.

Funeral practices; much on social class factors and defense mechanisms.

Morris, D. *Human zoo*. Hightstown, N. J.: McGraw-Hill, 1969. Pp. 256. $6.95 cloth.

Man as trapped in and by society.

Orwell, G. *Animal farm*. New York: New American Library, 1946. Pp. 118. $ .75 paper.

Political satire.

Orwell, G. *1984*. New York: Harcourt, Brace & World, 1949. Pp. 314. (Signet, $ .75 paper.)

A novel describing the way behavior is molded in a totalitarian society.

Packard, V. *The status seekers*. New York: Pocket Books, 1959. $ .95 paper.

Social class factors.

Riesman, D., Glazer, N., & Denney, R. *The lonely crowd*. New Haven, Conn.: Yale University Press, 1961. Pp. 315. $2.45 paper.

A sociologically oriented classic that introduced the concept of the "inner-directed" person.

Skinner, B. F. *Walden II*. New York: Macmillan, 1969. Pp. 266. $1.25 paper.

A society based on operant conditioning applied by the planners.

Statistics

Huff, D., & Geis, I. *How to lie with statistics*. New York: Norton, 1954. Pp. 142. $1.95 paper.

Everyday misuses of statistics.

Other

Eysenck, H. J. *Sense and nonsense in psychology*. Baltimore, Md.: Penguin Books, 1957. Pp. 349. $1.25 paper.

Gardner, M. *Fads and fallacies in the name of science*. New York: Dover Press, 1957. Pp. 363. $2.00 paper.

Demonstration of systematic investigation.

Wallack, I. Hopalong Freud and other parodies. New York: Dover Press, n.d. $1.25 paper.

AUDIOVISUAL MATERIALS

The following information was collected to aid the high school teacher of psychology in selecting audiovisual materials. The list of catalogues and suggested films, filmstrips, tapes, and transparencies is by no means complete. The films, filmstrips, and tapes were selected because they were suggested by the program members, seemed timeless, and/or had late copyright dates.

Perhaps a word of caution is in order. It is often assumed that the film will provide adequate context for its subject matter, but frequently this is not the case and the task may fall to the teacher. Previews may help to determine whether the teacher will need to supplement the film's coverage.

Film Catalogues

All of the following agencies, institutions, and companies publish film catalogues, usually offering the listed items for either sale or rent. There is much duplication in that a particular film may be available at any or all of the listed sources. A few are obtainable from only one source. It is suggested that potential users make their first contacts with one or another of the university film services listed.

Audio-Visual Center, Florida State University, Tallahassee, Florida 32306.
Audio-Visual Center, Indiana University, Bloomington, Indiana 47401.
IU has an especially large collection. All National Educational Television films appear to be available, including the Focus on Behavior Series and a special series of 15 films on exceptional children.
Audio-Visual Center, University of Maine, Orono, Maine 04473.
Audio-Visual Education, University of Oklahoma, Norman, Oklahoma 73069.
Audio-Visual Extension Service, General Extension Division, University of Minnesota, 2037 University Avenue, S.E., Minneapolis, Minnesota 55455.
Audio-Visual Services, Kent State University, Kent, Ohio 44240.
The Kent State collection appears to be one of the most complete in the country. Of particular interest is the special issue-oriented catalogue.
Audio-Visual Services, Pennsylvania State University, University Park, Pennsylvania 16802.
This is the source of the Psychological Cinema Register, an almost exhaustive listing of available, relevant films. Separate and possibly useful catalogues are published for the areas of counseling-guidance and sociology-anthropology.
Brigham Young University, Department of Audio-Visual Communications, Provo, Utah 84601.
Ask for the Mountain-Plains Film Library Association Joint Film Catalogue. It lists the total holdings of seven western institutions.
Center for Mass Communication, Columbia University Press, 1125 Amsterdam Avenue, New York, New York 10025.
Educational Media Center, Audio Visual Services, Bennion Hall, University of Utah, Salt Lake City, Utah 84112.
Extension Media Center, University of California, Berkeley, California 94720.
Film Distribution, Division of Cinema, School of Performing Arts, University of Southern California, University Park, Los Angeles, California 90007.
USC has another very large and seemingly complete collection.
Krasker Memorial Film Library, School of Education, Boston University, 765 Commonwealth Avenue, Boston, Massachusetts 02215.

New York University Film Library, 26 Washington Place, New York, New York 10003.
NYU has especially large and useful holdings for behavioral science purposes, including the Vassar series, the Bateson-Mead films, the Spitz series, and some Harlow films.
Visual Aids Service, Division of University Extension, University of Illinois, Champaign, Illinois 61820.
A separate catalogue is available for psychology and mental health films, also for social sciences.

Note.--There are undoubtedly many other universities and colleges with film collections available in addition to those just listed. Institutions were included because of two considerations: geographic location and information obtainable about size of holdings.

The following oganizations also have films available. Their catalogues are often less informative and less well organized so that it is easier to miss relevant material. Further, their collections usually seem to be much less varied.

ACI Films, Inc., 35 West 45th Street, New York, New York 10036.
Audio Film Center, 34 MacQuiston Parkway South, Mt. Vernon, New York 10550.
Av-Ed Films, 7934 Santa Monica Boulevard, Hollywood, California 90046.
Bailey-Film Associates, 11559 Santa Monica Boulevard, Los Angeles, California 90025.
According to the catalogue, some free loan material is available, as well as usual sales and rental.
Brandon Films, Inc., 221 West 57th Street, New York, New York 10019.
Buena Vista Distribution Co., Inc., Walt Disney Films, 800 Sonora Avenue, Glendale, California 91201.
Canadian Film Institute, 1762 Carling Avenue, Ottawa, Canada.
CFI is not to be confused with the National Film Board of Canada.
Carousel Films, Inc., 1501 Broadway, New York, New York 10036.
Churchill Films, 662 North Robertson Boulevard, Los Angeles, California 90069.
College Film Center, 332 South Michigan Avenue, Chicago, Illinois 60604.
Contemporary Films, Inc., 614 Davis Street, Evanston, Illinois 60201.
Coronet Films, 65 East South Water Street, Chicago, Illinois 60601.
Dimension Films, 733 North La Brea, Los Angeles, California 90038.
Educational Service Department, National Association of Manufacturers, 277 Park Avenue, New York, New York 10017.
Education Progress Service, Randolph, Wisconsin.
Some free filmstrips are available.
Encyclopedia Britannica, Educational Corporation, 425 North Michigan Avenue, Chicago, Illinois 60611.
Eye Gate House, Inc., 146-01 Archer Avenue, Jamaica, New York 11435.
Filmstrips and loops are available as well as more conventional 16-mm. and 8-mm. films.
Film Associates, 1159 Santa Monica Boulevard, Los Angeles, California 90025.
Films, Incorporated, 1144 Wilmette Avenue, Wilmette, Illinois 60091.
Folkways/Scholastic, 906 Sylvan Avenue, Englewood Cliffs, New Jersey 07632.
Imperial Film Company, 321 South Florida Avenue, Lakeland, Florida 33802.
Independent Film Producers Co., 334 East Green Street, Pasadena, California 91101.
International Communication Films, 870 Monterey Pass Road, Monterey Park, California 91754.
International Film Bureau, 332 South Michigan Avenue, Chicago, Illinois 60604.

Modern Talking Picture Service, c/o Film Programs, Inc., 2238 Euclid Avenue, Cleveland, Ohio 44115.

Teach Film Custodians, Inc., 25 West 43rd Street, New York, New York 10036.

Walter Reade-Sterling Films, Educational Films Inc., 241 East 34th Street, New York, New York 10016.

Film Series and General Audiovisual Aids

There are literally hundreds of films with some potential for use in high school psychology courses. It is impossible to present information regarding each one. As a result, it was decided to list available sources, with some commentary relating to certain specific films with which participants had some familiarity or which are recommended for viewing by textbook authors.

America's Crises Series. The series is a set of nine films produced by NET in 1964-65. Topics include campus unrest, mental health, poverty, value conflict, the generation gap, and others. The series is dating rapidly.

For further information, contact:

Audiovisual Center
Indiana University
Bloomington, Indiana 47401

Behavior Theory in Practice Series (Meredith Publishing Company, Ellen Reese). The series is a set of four films which not only present basic concepts of conditioning, both classical and operant, but also illustrate the usefulness of the principles in a wide variety of settings. Titles include: "Respondent and Operant Behavior" (the first in the set); "Shaping Various Operants, Various Species" (including work on programmed learning with humans); "Generalization, Discrimination and Motivation" (with some material on intracranial self-stimulation); and "Sequences of Behavior" (including a demonstration of the training of seeing-eye dogs). The series is widely used and highly regarded at the college level and was produced in 1965. One source from which it is definitely available (there are undoubtedly many others) is:

Visual Aids Service
Division of University Extension
University of Illinois
Champaign, Illinois 61820

Character Formation in Different Cultures Series. This classic set of films relating to cultural differences and their effects was prepared in the early 1950s at least in part under the direction of both Margaret Mead and Gregory Bateson. Titles include: "Balinese Family"; "Bathing Babies in Three Cultures"; "Childhood Rivalry in Bali and New Guinea"; "Four Families"; "Karba's First Years"; and "Trance and Dance in Bali." One definite source is:

New York University Film Library
26 Washington Place
New York, New York 10003

Focus on Behavior Series. Produced in 1962 with the cooperation of the American Psychological Association, this set of 10 films has been widely acclaimed. The films do vary somewhat in quality and in the speed with which they are becoming outdated. The titles include: "Computers and Human Behavior"; "Chemistry of Behavior"; "Brain and Behavior"; "Conscience of a Child"; "Learning about Learning"; "The Need to Achieve"; "No Two Alike"; "Of Men and Machines"; "Social Animal"; and "A World to Perceive."

For further information, contact:

Audiovisual Center
Indiana University
Bloomington, Indiana 47401

Harlow Series. The series is comprised of two very well-done films relating to Harlow's work with mothering procedures and their effects on the behavior of chimpanzees. Titles are "Mother Love" and "The Nature and Development of Affection." The first was produced by CBS and is available from New York University; the latter can be obtained from:

Audio Visual Sevices
Pennsylvania State University
University Park, Pennsylvania 16802

McGraw-Hill Series. For a number of years, the McGraw-Hill Book Company has had available an ever increasing library of films that are typically described as being well done and useful in stimulating class response. The specific titles range widely. The following is a very small sampling: "Common Fallacies about Group Differences"; "Development of Individual Differences"; "The Brain and Behavior"; "Perception"; "Facing Reality"; "Profile of a Problem Drinker"; "Breakdown"; "A Day in the Night of Johnathan Mole"; "Shyness"; "The Frustrating Fours and Fascinating Fives"; "The Feeling of Rejection"; "The Feeling of Hostility"; "The Feeling of Depression"; and "Over-Dependency."

A complete listing of the series, with descriptive summaries, can be obtained from:

McGraw-Hill Book Company
Text Film Division
330 West 42nd Street
New York, New York 10036

National Film Board of Canada. The Canadian National Film Board has produced dozens of films with some utility. They appear to have particularly strong offerings related to cultural differences (frequently using Canadian Indian and French groups) and emotional adjustment. A very few of their titles include: "Let's Discuss Smoking" (high school students questioning a professor of psychology); "Why Won't Tommy Eat?" (mother's role in the development of eating habits and preferences); "The Admittance" (emotional factors and reactions within a family when one member becomes mentally ill); "Danny and Nicky" (clarifying common misconceptions about mental retardation); and "What Do You Think?" (eleven films designed to encourage discussion by teen-age audiences of basic social questions.

For further information, contact:

National Film Board of Canada
Suite 819
680 Fifth Avenue
New York, New York 10019

NBC National Educational Film Library. The National Broadcasting Company has produced a number of films of relevance. The focus is very much a contemporary one emphasizing present problems of society so that the films will probably date quickly. Some of the presently available titles include: "A Chance to Learn" (issues and possible solutions for central city schools); "In the Name of Law" (violence and the breakdown of law and order); "A Little Younger/A Little Older" (the generation gap plus drugs and the problems of affluence); "Oh, Woodstock!" (the festival viewed both by young participants and by adults, including two psychologists); and "The Orange and the Green" (prejudice and culture conflict in Northern Ireland).

Further information can be obtained from:

NBC Educational Enterprise
Room 1040
30 Rockefeller Plaza
New York, New York 10020

Office of Economic Opportunity Film Series. The Office of Economic Opportunity has available approximately 150 films. Many relate to cultural deprivation and its effects, and many illustrate OEO training procedures.

For further information, contact:

OEO Film Guide
Project Head Start
Office of Economic Opportunity
1100 Eighteenth Street, N.W.
Washington, D. C. 20506

Ordinal Scales of Infant Development Series. The series was prepared by Uzgiris and Hunt in 1966 to illustrate behavioral phenomena of early sensory-motor development as described and theorized by Piaget. There are six films in the series, and titles include: "Operational Causality," "Development of Schemas," and the like. They may not be appropriate for a general introductory high school course. One definite source is:

Coronet Films
65 East South Water Street
Chicago, Illinois 60601

Outstanding Contributors to the Psychology of Personality Series. The series is a set of 10 films consisting of interviews conducted by Richard I. Evans with notable psychologists (each consists of two reels). The psychologists are: Erich Fromm, B. F. Skinner, Gordon Allport, Henry Murray, Raymond Cattell, Erik Erikson, Gardner Murphy, Arthur Miller, Ernest Hilgard, and Nevitt Sanford. It is not felt that they would be of much interest to "average" high school students but might appeal to those in a higher level course. They are definitely available from:

Association Instructional Films, Inc.
347 Madison Avenue
New York, New York 10017

Sense Perception Series. Prepared in 1960 by the Moody Institute of Science, there are two original films ("The Wonder of the Senses" and "The Limitation of the Senses") which have also been made available as a third condensed and combined version. The films are a good demonstratior of the role of learning in sensation and perception. The University of Illinois is a definite source.

Sex education films. Two companies make a point of indicating in their catalogues that they handle sex education films (as well as others):

Henk Newenhouse, Inc.
1825 Willow Road
Northfield, Illinois 60096
(The company appears to be a distributor for SIECUS films.)

Popular Science Publishing Co., Inc.
Audio-Visual Division
355 Lexington Avenue
New York, New York 10017

Spitz Series. A number of films generally related to maternal deprivation and its effects have been made by Rene Spitz. Although they are classics in their field, it is reported that photographic quality is poor and they are difficult to watch. They are available from New York University.

United States government films. Three sources were found for catalogues of films available from the federal government:

Division of Information, Technology and Dissemination
Bureau of Research
Office of Education
United States Department of Health, Education, and Welfare
Washington, D. C. 20202

OEO Film Guide
Project Head Start
Office of Economic Opportunity
1100 Eighteenth Street, N.W.
Washington, D. C. 20506

United States Government Film Services
245 West 55th Street
New York, New York 10019

Vassar College Series. This is a very well-known and highly regarded set of films made over a period of years at the Child Development Laboratory School at Vassar College. One set has to do with the use of pla techniques in studying child personality ("Balloons: Aggression and Destruction Games"; "Finger Painting"; "Blocking Games," etc.) while other deal with the behavior of essentially normal children at various age levels ("Abby, a Backward Look"; "This Is Robert"; "When Should Grownups Help?", etc.). All have a focus on childhood behavior.

For further information, contact, not Vassar, but:

New York University Film Library
26 Washington Place
New York, New York 10003

Film Listing by Topics

The name of the distributor appears first, with the name(s) of the producer(s) in parentheses. The distributor is the agent authorized to sell a particular film, but the same film may often be rented from other agents than the distributor.

Communication and Language

"Baboon Behavior"; Pennsylvania State University (University of California, Los Angeles, S. L. Washburn & I. DeVore), 1961, 31 min., color.
"A Communications Model"; Indiana University (NET), 1967, 30 min.
"Communications Revolution"; Ohio State University, 1961, 22 min.
"Language and Linguistics"; No. 1-13; Indiana University (NET), 1957, 30 min.
"Language by Gesture"; University of Michigan, 1966, 28 min.

Emotions and Motivation

"Acquisition of the Token-Reward Habit in the Cat"; Pennsylvania State University (K. U. Smith), 1937, 17 min., silent.
"Anxiety"; Film Strip-of-the-Month Clubs, 1966, (filmstrip) 39 frs., 33 mm., color.
"Baboon Ecology"; Pennsylvania State University (University of California, Los Angeles, S. L. Washburn & I. DeVore), 1963, 21 min., color.
"Brakes and Misbehavior"; Indiana University (NET), 1957, 30 min.
"Conflict"; Indiana University (NET, F. McKinney), 1956, 29 min.
"Conflict Resolution Research"; American Association for the Advancement of Science (American Psychological Association, M. Deutsch & L. Solomon), 1966, 30 min.
"David and Hazel: A Story in Communications"; McGraw-Hill Textfilms (National Film Board of Canada), 1965, 28 min.
"Emotion"; Indiana University (NET, Palmer Films), 1954, 29 min.
"Emotional Maturity"; McGraw-Hill Textfilms, 1958, 20 min.
"Emotions: Friend or Enemy"; Indiana University (NET, Hofstra College), 1954, 30 min.
"Feelings"; (University of Southern California, John Tracy Clinic), 1962, 10 min.
"Frustration and Fixation"; Pennsylvania State University (R. S. Feldman, P. Ellen, & R. H. Barrett), 1951, 19 min.
"The Game"; McGraw-Hill Textfilms (National Film Board of Canada), 1967, 28 min. Teacher's guide.
"How Can I Understand Other People"; Film Strip-of-the-Month Clubs, 1956, (filmstrip) 41 frs., 33 mm., color. Teaching guide.
"Motivation and Reward in Learning"; Pennsylvania State University (N. E. Miller & G. Hart), 1948, 15 min.
"The Need to Achieve" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.
"Personal Problem Solving"; Film Strip-of-the-Month Clubs, 1965, (filmstrip) 40

frs., 33 mm., color. Guide.
"Psyche 59"; (Gregory J. Markopoulas), 1948, 22 min.
"Psychosomatic Conditions--Obesity"; Continental Films, 1964, 29 min.

Growth and Development, Maturation

"Behavior of Animals and Human Infants in Response to a Visual Cliff"; Pennsylvania State University (R. D. Walk & E. J. Gibson), 1959, 15 min.
"Bright Side"; Contemporary Films, Mental Health Film Board (I. Jacoby, R. Leacock, & H. Rome), 1958, 23 min.
"Children Growing Up with Other People"; Contemporary Films (British Information Service), 1948, 23 min.
"The Conscience of a Child" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.
"Development of the Smile and Fear of Strangers in the First Year of Life"; Pennsylvania State University (Langley Porter Neuropsychiatric Clinic, D. G. Freedman), 1963, 20 min.
"Experiment No. 6--Childhood of the Chimpanzee"; Pennsylvania State University (NET, Delta Primate Research Center, W. Mason), 1966, 30 min.
"How Babies Learn"; New York University (United States Public Health Service, Children's Bureau, B. M. Caldwell & H. B. Richmond), 1966, 38 min., color. Discussion guide.
"Long Time to Grow": Parts I-III; Pennsylvania State University (New York University: Vassar College, Child Study Department); Part I--"Two and Three Year Olds in Nursery School," 1951, 35 min.; Part II--"Four and Five Year Olds in School," 1954, 40 min.; Part III--"Six, Seven, Eight Year Olds--Society of Children," 1957, 30 min.
"Study in Human Development": Parts III-IV; Pennsylvania State University (H. D. Behrens); Part III--"Nineteen Months to Two Years and Eight Months," 1946, 19 min., silent; Part IV--"Three Years to Five Years," 1948, 18 min., silent.
"Study of Twins": Parts I-IV; Pennsylvania State University (H. D. Behrens); Parts I & II, 1947, 17 min., silent; Part III, 1949, 18 min., silent; Part IV, 1951, 19 min., silent.
"Thirty-Six Weeks Behavior Day"; Encyclopedia Britannica Films (A. Gesell), 1953, 11 min.
"365 Days with Your Baby"; (Moringa Milk Industry, Japan), 1954, 28 min. Content is easy to follow even though the narrative is in Japanese.

Learning and Testing

"Acquisition of the Token-Reward Habit in the Cat"; Pennsylvania State University (K. U. Smith), 1937, 17 min., silent.
"Analysis of the Forms of Animal Learning": Parts I-IV; Pennsylvania State University (K. U. Smith & W. E. Kappauf), 1940; Parts I & II, 17 min., silent; Parts III & IV, 13 min., silent.
"Animal Reasoning"; Pennsylvania State University (NET, Tulane University), 1963, 9 min.
"Behavior Theory in Practice": Parts I-IV; (E. P. Reese), 1966, 20 min., color.
"Brain and Behavior" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.
"Brainwashing"; (CBS, Prudential Insurance Co.), 1957, 54 min.
"Children Learning by Experience"; Contemporary Films (British Information Service), 1948, 30 min.
"Computers and Human Behavior" (Focus on Behavior Series); Indiana University

(NET), 1963, 29 min.

"Demonstration in Human Learning"; Pennsylvania State University (R. L. Karen), 1957, 15 min.

"Dynamics of an Experimental Neurosis": Parts I-IV; Pennsylvania State University (J. H. Masserman), 1944; Part I--"Conditioned Feeding Behavior and Induction of Experimental Neurosis in Cats," 21 min., silent; Part II --"Effects of Environmental Frustrations and Intensification of Conflict in Neurotic Cats," 16 min., silent; Part III--"Experimental Diminution of Neurotic Behavior in Cats," 19 min., silent; Part IV--"Active Participation in Establishing More Satisfactory Adjustment," 20 min., silent.

"Dynamics of Competition in Cats: Inter-Cat Relationships in a Manipulative Feeding Situation"; Pennsylvania State University (J. H. Masserman), 1944, 15 min., silent.

"Exercise in Operant Conditioning"; Pennsylvania State University (L. Aarons), 1966, 19 min.

"How Babies Learn"; New York University (United States Public Health Service, Children's Bureau, B. M. Caldwell & H. B. Richmond), 1966, 38 min., color. Discussion guide.

"Human Abilities and Mental Growth"; Indiana University (NET), 1957, 30 min.

"Learning": Parts I-III; McGraw-Hill Textfilms (K. C. Montgomery, R. J. Herrnstein, & W. H. Morse), 1956; Part I--"Acquisition, Extinction, and Reconditioning," 8 min.; Part II--"Stimulus Discrimination and Response Differentiation," 11 min.; Part III--"Schedules of Reinforcement," 16 min.

"Learning about Learning" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.

"Learning and Behavior"; Carousel Films, Inc. (B. F. Skinner & R. J. Herrnstein), 1960, 26 min.

"Long Time to Grow"; Parts I-III; Pennsylvania State University (New York University: Vassar College, Child Study Department); Part I--"Two and Three Year Olds in Nursery School," 1951, 35 min.; Part II--"Four and Five Year Olds in School," 1954, 40 min.; Part III--"Six, Seven, Eight Year Olds--Society of Children," 1957, 30 min.

"Man as He Behaves"; Pennsylvania State University (Harvard University, O. Lindsley), 1967, 30 min.

"Of Men and Machines" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.

"Proof"; Society for Visual Education, 1963, (filmstrip) 65 frs., 35 mm., record.

"Reinforcement Control of a Young Child's Behavior"; (Weisberg), 1968, 15 min.

Mental Deficiency

"Epileptic Seizure Patterns"; Pennsylvania State University, 1963, 25 min.

"Mental Retardation": Parts I & II; University of Wisconsin (United States Public Health Service, Children's Bureau), 1967, 30 min., color.

"Michael--A Mongoloid Child"; Pennsylvania State University (New York University: British Film Institute Experimental Production Fund), 1961, 14 min.

"Not without Hope"; Marshall Faber, 1964, 23 min., color.

"PKU--Preventable Mental Retardation"; Pennsylvania State University (International Film Bureau: University of Southern California School of Medicine, R. Koch), 1961, 15 min., color.

"Report on Down's Syndrome"; International Film Bureau (University of Southern California School of Medicine, C. Ross & R. Koch), 1964, 21 min., color.

"Selling One Guy Named Larry"; National Association for Retarded Children, 1966, 17 min.

"There Was a Door"; Contemporary Films, 1959, 30 min.

"To Lighten the Shadows"; International Film Bureau (Southern Illinois University, J. Anderson), 1963, 20 min.

Personality Development and Mental Disorders

"Activity for Schizophrenia"; Du Art Film Labs (United State Veterans Administration), 1951, 25 min.

"Angry Boy"; Contemporary Films (Mental Health Film Board, A. C. Rennie & E. Middlewood), 1951, 32 min.

"Autism's Lonely Children"; Pennsylvania State University (NET, Neuropsychiatric School, University of California, Los Angeles, F. Hewitt), 1967, 20 min.

"Case Study of Multiple Personality"; Pennsylvania State University (C. H. Thigpen & H. M. Cleckley), 1957, 30 min., b & w, color.

"Children in Search of Self"; Pennsylvania State University (Memorial Guidance Clinic of Virginia, H. Gordon & W. M. Lordi), 1961, 21 min.

"The Conscience of a Child" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.

"Depression"; International Film Bureau, Robert Anderson Associates (H. B. Durost & H. E. Lehmann), 1961, 30 min.

"Development of an Infantile Psychosis"; University of Washington, 1963, 18 min.

"Development of the Smile and Fear of Strangers in the First Year of Life"; Pennsylvania State University (Langley Porter Neuropsychiatric Clinic, D. G. Freedman), 1963, 22 min.

"Dynamics of an Experimental Neurosis"; Parts I-IV; Pennsylvania State University (J. H. Masserman), 1944; Part I--"Conditioned Feeding Behavior and Induction of Experimental Neurosis in Cats," 21 min., silent; Part II --"Effects of Environmental Frustrations and Intensification of Conflict in Neurotic Cats," 16 min., silent; Part III--"Experimental Diminution of Neurotic Behavior in Cats," 19 min., silent; Part IV--"Active Participation in Establishing More Satisfactory Adjustment," 20 min., silent.

"Emotional Illness"; Indiana University (NET), 1967, 30 min.

"The Feeling of Hostility"; McGraw-Hill Textfilms (National Film Board of Canada), 1948, 31 min.

"The Feeling of Rejection"; McGraw-Hill Textfilms (National Film Board of Canada), 1948, 23 min.

"Frustration and Fixation"; Pennsylvania State University (R. S. Feldman, P. Ellen, & R. H. Barrett), 1951, 19 min.

"Games People Play: The Practice"; Indiana University (NET), 1967, 30 min.

"The Human Side"; Pennsylvania State University (Continental Films, Mental Health Materials Center, D. C. Cameron, H. Rome, M. Karlins, & N. K. Kjenass), 1957, 24 min. Discussion guide.

"Lonely Night"; Pennsylvania State University (Mental Health Film Board, I. Jacoby), 1955, 62 min.

"Man as He Behaves"; Pennsylvania State University (Harvard University, O. Lindsley), 1967, 30 min.

"A Man with a Problem"; Pennsylvania State University (University of Adelaide, South Australia, W. A. Cramond, F. M. Mai, J. H. Court, & J. Morley), 1967, 17 min.

"Pathological Anxiety"; Pennsylvania State University (International Film Bureau: Robert Anderson Associates, N. B. Epstein, H. E. Lehmann, & A. M. Marcus), 1961, 30 min.

"Psychopath"; Pennsylvania State University (International Film Bureau: Andra Verdun Protestant Hospital, H. B. Durost & H. E. Lehmann), 1961, 30 min.

"Quiet One"; Contemporary Films (Film Documents, Inc.), 1948, 67 min.

"Shades of Gray"; Du Art Film Labs (United States Army), 1948, 66 min.
"Working and Playing to Health"; Contemporary Films (Mental Health Film Board, A. F. Bay, B. Schlotter, & L. deBoer), 1954, 35 min.
"A World to Perceive" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.
"You Are There: Dr. Pinel Unchains the Insane"; McGraw-Hill Textfilms, 1957, 27 min.

Psychology as a Science and Schools of Psychology

"Dr. Carl Gustav Jung"; Peter M. Robeck & Co. (J. Freeman & H. Burnett), 1967, 38 min.
"Dr. Ernest Jones"; Encyclopedia Britannica Films (NBC), 1958, 30 min.
"ESP: The Human 'X' Factor"; Pennsylvania State University (NET, D. Prowitt & J. B. Rhine), 1967, 30 min.
"Jung Speaks of Freud"; Pennsylvania State University (R. I. Evans & J. W. Meany), 1957, 29 min.
Outstanding Contributors to the Psychology of the Personality Series; Pennsylvania State University (National Science Foundation: R. I. Evans), 1966.
    "Dr. Gordon Allport"; Parts I & II, 50 min.
    "Dr. Raymond Cattell"; Parts I & II, 50 min.
    "Dr. Erik Erikson"; Parts I & II, 50 min.
    "Dr. Erich Fromm"; Parts I & II, 50 min.
    "Dr. Gardner Murphy"; Parts I & II, 50 min.
    "Dr. Henry Murray"; Parts I & II, 50 min.
    "Dr. B. F. Skinner"; Parts I & II, 50 min.

Psychotherapy

"Cry Help"; NBC Educational Enterprises (NBC), 1969, 81 min., color.
"Emotional Dilemma"; Indiana University (NET), 1967, 60 min.
"The Farthest Frontier"; Carousel Films, Inc., 1966, 47 min.
"Full Circle"; International Film Bureau (Mental Health Film Board, I. Jacoby), 1964, 27 min.
"Games People Play: The Theory"; Indiana University (NET), 1967, 30 min.
"Group Worker"; University of Michigan, 1967, 30 min.
"Psychiatry in Action"; McGraw-Hill Textfilms (Contemporary Films), 1943, 62 min.

Sense Organs and the Nervous System

"Autonomic Nervous System"; National Foundation (Duke University School of Medicine), 1953, 40 min., color.
"Behavior Disturbances after Bilateral Removal of the Frontal Areas of the Cortex in Cats"; Pennsylvania State University (K. U. Smith), 1938, 16 min., silent.
"Brain and Behavior" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.
"The Change from Visible to Invisible: A Study of Optical Transitions"; (J. J. Gibson), 1969, 10 min., silent.
"Dangerous Noise"; Pennsylvania State University, 1968, 15 min.
"Experimental Psychology of Vision"; International Film Bureau (Center for Mass Communication, G. M. Gilbert), 1941, 16 min.
"Fidelity of Report"; Pennsylvania State University (W. S. Ray), 1946, 6 min., silent. Set of questions available.
"Functions of the Nervous System"; Pennsylvania State University (K. K. Bosse),

1949, 13 min.
"Genetics and Behavior"; Pennsylvania State University (J. Antonitis & J. P. Scott), 1953, 18 min., silent, b & w, color.
"Living in a Reversed World"; Pennsylvania State University (E. J. Mauthner & Professor Erismann), 1958, 12 min.
"Neurological Examination of the Newborn"; Wexler Film Production (United States Department of Health, Education, and Welfare, National Institutes of Health), 1960, 30 min., color.
"Neurological Examination of the One-Year Old"; Wexler Film Production (United States Department of Health, Education, and Welfare, National Institutes of Health), 1960, 30 min., color.
"Role of the Hypothalamus in Emotion and Behavior"; Pennsylvania State University (J. H. Masserman), 1943, 27 min., silent.
"Seizure: The Medical Treatment and Social Problems of Epilepsy"; Du Art Film Labs (United States Veterans Administration), 1951, 48 min.
"Sense Organs"; McGraw-Hill Textfilms (American Institute of Biological Sciences), 1961, 30 min.
"Upright Vision through Inverting Spectacles"; Pennsylvania State University (E. J. Mauthner, Professor Erismann, & I. Kohler), 1953, 11 min., silent.
"Visual Perception"; Educational Testing Service, 1959, 19 min., color.
"A World to Perceive" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.

Social and Antisocial Behavior

"Baboon Social Organization"; Pennsylvania State University (University of California, Los Angeles, S. L. Washburn & I. DeVore), 1963, 17 min., color.
"Bold New Approach"; International Film Bureau (Mental Health Film Board, I. Jacoby), 1966, 59 min.
"The Delinquents": Parts I & II; CBS, 1959, 30 min.; Part I--"A Boy Named Bob"; Part II--"The Highfields Story."
"Drug Abuse: Bennies and Goofballs"; Precision Film Labs (United States Public Health Service, Food and Drug Administration), 1966, 20 min.
"Drug Addiction"; Xerox Corp. (Drew Associates, CINE), 196, 53 min.
"Drugs and the Nervous System"; Churchill Films, 1967, 18 min., color.
"Emotionally Disturbed"; Indiana University (NET), 1956, 29 min.
"Games People Play: The Theory"; Indiana University (NET), 1967, 30 min.
"John Kenneth Galbraith: The Idea of the City"; 1968, 29 min., color.
"LSD--Insight or Insanity?"; Bailey-Film Associates (M. Miller & R. S. Scott), 1967, 28 min., color.
"LSD--The Spring Grove Experiment"; McGraw-Hill Textfilms (CBS), 1966, 54 min., Study guide.
"The New Morality: Challenge of the Student Generation"; Carousel Films, Inc., 1967, 37 min.
"Psycho on Wheels"; (WCAU-TV, CINE), 1964, 30 min.
"The Social Animal" (Focus on Behavior Series); Indiana University (NET), 1963, 29 min.

Audio Catalogues

From their catalogues, most of the audiovisual centers seem to be much more visual than audio. Most, however, indicate the availability of at least some audio material. In addition, the following sources have been located:

Center for the Study of Democratic Institutions, Box 4068, Santa Barbara, California 93103.

The Center's holdings include 176 tapes, many dealing with the topics of race and culture.

Listening Library, Inc., One Park Avenue, Old Greenwich, Connecticut 06870.

McGraw-Hill Sound Seminar Series, College Division, McGraw-Hill Book Co., 62-REV P. O. Box 402, Hightstown, New Jersey 08520.

This would seem to be by far the best existing collection--approximately 230 titles. Most are very well-known psychologists, who speak on an enormous variety of subjects from impotence to phenomenology. Some have accompanying slides.

National Center for Audio Tapes, Bureau of Audiovisual Instruction, University of Colorado, Boulder, Colorado 80302.

Television Courses

Four courses of possible relevance are listed in the catalogue of:

Great Plains National Instructional Television Library
University of Nebraska
Lincoln, Nebraska 68508

The courses include:

Educational psychology. Teacher: Bryant Feather; texts: Blair, Jones & Simpson; Noll & Noll; lessons: 30, 45 min. duration.

General psychology. Teacher: Fred McKinney; text: Hilgard (3rd ed.); lessons: 31, 45 min. duration.

Measurement and evaluation. Teacher: Max Engelhart; texts: Noll; Cronbach (2nd ed.); lessons: 30, 45 min. duration.

Social science. Teacher: Francis Gaul; texts: five, including DuBois' *People of Alor*, Hall's *Freudian Primer*; lessons: 30, 45 min. duration.

Note.--It appears from the catalogue that (*a*) it is possible to rent specific lectures without taking the whole package and (*b*) materials of this nature are very likely to quickly become outdated. For this reason, no attempt was made to track down a specific source for the course in general psychology taught by Boring a number of years ago.

Transparencies

Catalogues

Research Media, Inc.
4 Midland Avenue
Hicksville, New York 11801

Lansford Publishing Co.
2516 Lansford Avenue
San Jose, California 95125

Tape Recordings

No. 25 Intensive Adolescent Group (45 min.). This is a composite tape of a weekend session of intensive therapy with a group of adolescent wards of the court in a residential treatment home. Ann Dreyfuss and her co-therapist use many techniques including psychodrama to reach gut feelings. Script. $7.50 to nonmembers.

American Academy of Psychotherapists
Tape Library Catalog
6420 City Line Avenue
Philadelphia, Pennsylvania 19151

REFERENCE MATERIALS

Following is a nonexhaustive list of currently available books and articles that an instructor of psychology may wish to use to supplement his usual sources of information. It also may be used as a guide to develop a collection for the library. No attempt to evaluate the books has been made.

The range of topics is traditional and the books vary considerably in difficulty level. Most of the titles are self-descriptive, and, insofar as possible, a balance has been provided with regard to positions on controversial issues.

Following the list, addresses are provided for the publishers cited.

Design, Statistics, and General Experimental Psychology

Agnew, N. McK., & Pyke, S. W. *The science game*. Englewood Cliffs, N. J.: Prentice-Hall, 1969. $3.50 paper.

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Anderson, B. *The psychology experiment*. Belmont, Calif.: Brooks/Cole, 1966. $2.95 paper.

Cronbach, L. J. *Essentials of psychological testing*. New York: Harper & Row, 1969. $10.00 cloth.

Durost, W. N., & Prescott, G. A. *Essentials of measurement for teachers*. New York: Harcourt, Brace & World, 1962. $5.25 cloth.

Dustin, D. S. *How psychologists do research: The example of anxiety*. Englewood Cliffs, N. J.: Prentice-Hall, 1969. $3.50 paper.

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Franzblau, A. N. *The primer of statistics for non-statisticians*. New York: Harcourt, Brace & World, 1958. $3.95 paper.

Hays, W. L. *Statistics for psychologists*. New York: Holt, Rinehart & Winston, 1963. $11.50 cloth.

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Kling, J. W., & Riggs, L. A. (Eds.) *Experimental psychology*. New York: Holt, Rinehart & Winston, 1970. No price available.

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Rosenthal, R. *Experimenters in behavioral research*. New York: Appleton-Century-Crofts, 1966. $7.50 cloth.

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Drugs and Behavior

Blum, R. H. *Utopiates: The use and users of LSD-25*. New York: Atherton,

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Blum, R. H. *Society and drugs: The college and high school observations.* San Francisco: Jossey-Bass, 1969. $12.50 cloth.

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DeBold, R. C., & Leaf, R. C. (Eds.) *LSD, man and society*. Middletown, Conn.: Wesleyan University Press, 1967. $4.95 paper.

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Southwell, E. A., & Feldman, H. (Eds.) *Abnormal psychology: Readings in theory and research*. Belmont, Calif.: Brooks/Cole, 1969. $5.25 paper.

Stone, S., & Stone, A. (Eds.) *Abnormal personality through literature*. Englewood Cliffs, N. J.: Prentice-Hall. 1966. $4.95 paper.

Szasz, T. *The myth of mental illness*. New York: Delta-Dell, 1967. $2.25 paper.

Ullman, P., & Krasner, L. *A psychological approach to normal behavior*. Englewood Cliffs, N. J.: Prentice-Hall, 1969. $9.95 cloth.

Ulrich, R., Stachnik, T., & Mabrey, J. (Eds.) *The control of human behavior*. Glenview, Ill.: Scott, Foresman, 1966. No price available.

White, R. *The abnormal personality*. New York: Ronald Press, 1964. $8.50 cloth.

Wolfe, J. *The conditioning therapies: The challenge of psychotherapy*. New York: Holt, Rinehart & Winston, 1964. $8.95 cloth.

Wolfe, J. *The practice of behavior therapy*. Long Island City, N. Y.: Pergamon, 1968. $5.50 paper.

Sensation and Perception

Alpern, M. *Sensory processes*. Belmont, Calif.: Brooks/Cole, 1966. $2.25 paper.

Dember, W. N. *The psychology of perception*. New York: Holt, Rinehart & Winston, 1960. $5.95 cloth.

Geldard, F. *The human senses*. Somerset, N. J.: Wiley, 1953. $8.95 cloth.

Gibson, J. J. *The senses considered as a perceptual system*. Boston: Houghton Mifflin, 1966. $7.75 cloth.

Goldiamond, I. Indicators of perception--Subliminal perception, subception, unconscious perception: An analysis in terms of psychophysical indicants and methodology. *Psychological Bulletin*, 1958, *55*, 373-411.

Gregory, R. *Eye and brain*. Hightstown, N. J.: McGraw-Hill, 1966. $2.45 paper.

Leibowitz, H. *Visual perception*. New York: Macmillan, 1964. $2.25 paper.

Lowenstein, O. *The senses*. Baltimore, Md.: Penguin-Pelican Books, 1962. $1.25 paper.

Mueller, C. *Sensory psychology*. Englewood Cliffs, N. J.: Prentice-Hall, 1965. $3.25 paper.

Rosenblith, W. (Ed.) *Sensory communication*. Cambridge, Mass.: MIT Press, 1961. $8.50 paper.

Weintraub, D. J., & Walker, E. L. *Perception*. Belmont, Calif.: Brooks/Cole, 1966. $2.25 paper.

Social Psychology

Bradford, L. P., Gibb, J. R., & Benne, K. D. (Eds.) *T-group theory and laboratory method*. New York: Wiley, 1964. $10.95 cloth.

Brown, R. *Social psychology*. New York: Free Press, 1965. $9.95 cloth.

Communications/Research/Machines, Inc. *Readings in social psychology today*. Del Mar, Calif.: Author, 1970. $4.95 cloth.

Deutsch, M., & Krauss, R. N. *Theories in social psychology*. New York: Basic Books, 1965. $3.95 cloth.

Evans, R. I., & Rozelle, R. M. *Social psychology in life*. Boston: Allyn & Bacon, 1970. No price available.

Greenwald, A. G., et al. *Psychological foundations of attitudes*. New York: Academic Press, 1968. $12.50 cloth.

Hardin, G. (Intros. by) *Science, conflict and society*. (Readings from *Scientific American*) San Francisco: W. H. Freeman, 1969. $5.75 paper.

Hollander, E. P. *The principles and methods of social psychology*. Fairlawn, N. J.: Oxford University Press, 1967. $8.00 cloth.

Insko, C. A. *Theories of attitude change*. New York: Appleton-Century-Crofts,

1967. $7.50 cloth.
Newcomb, T. M., Turner, R. H., & Converse, P. E. Social psychology: A study of human interaction. New York: Holt, Rinehart & Winston, 1965. $9.95 cloth.
Rosenthal, R., & Jacobson, L. Pygmalion in the classroom: Teacher expectations. New York: Harper & Row, 1968. $3.95 paper.
Zajonc, R. Social psychology. Belmont, Calif.: Brooks/Cole, 1966. $2.25 paper.
Zimbardo, P., & Ebbesen, E. B. Influencing attitudes and changing behavior. Reading, Mass.: Addison-Wesley, 1965. $1.95 paper.

General and Miscellaneous

Eysenck, H. J. The uses and abuses of psychology. Baltimore, Md.: Penguin-Pelican Books, 1954. $1.25 paper.
Eysenck, H. J. Fact and fiction in psychology. Baltimore, Md.: Penguin-Pelican Books, 1957. $1.25 paper.
Eysenck, H. J. Sense and nonsense in psychology. Baltimore, Md.: Penguin-Pelican Books, 1957. $1.25 paper.
McConnell, R. A. An ESP curriculum guide for secondary schools and colleges. Department of Biophysics and Microbiology, University of Pittsburgh, Pittsburgh, Pennsylvania 15213 (copies are available from the author).

General Source Material
(Overlaps with all previous listings)

Annual review of psychology. $10.00 per year. Annual Review, Inc., 4139 El Camino Way, Palo Alto, California 94306.
Bobbs-Merrill Reprint Series, 4300 West 62nd Street, Indianapolis, Indiana 46268.
Brooks/Cole Basic Concepts in Psychology Series.
Communications/Research/Machines, Inc., Series, based on Psychology Today.
English, H. B., & English, A. C. The comprehensive dictionary of psychological and psychoanalytical terms. New York: Longmans-Green, 1958. $8.00 cloth.
Macmillan series of paperbacks.
Prentice-Hall Foundations of Modern Psychology Series.
Sarbin, T. R., & Coe, W. C. The student psychologist's handbook. New York: Harper & Row, 1969. $2.95 paper.
Scientific American Offprint Series. San Francisco: W. H. Freeman.

Publishers Address List

Academic Press, 111 Fifth Avenue, New York, New York 10003.
Addison-Wesley Publishing Co., Inc., Reading, Massachusetts 01867.
Allyn & Bacon, Inc., 470 Atlantic Avenue, Boston, Massachusetts 02210.
Ann Arbor Books, Ann Arbor, Michigan 48104.
Apollo Editions, Inc., 201 Park Avenue South, New York, New York 10003.
Appleton-Century-Crofts, 440 Park Avenue South, New York, New York 10016.
Atheneum Publishers, 122 East 42nd Street, New York, New York 10017.
Atherton Press, Inc., 70 Fifth Avenue, New York, New York 10011.
Avon Books, 959 Eighth Avenue, New York, New York 10019.
Ballantine Books, Inc., 101 Fifth Avenue, New York, New York 10003.
Basic Books, Inc., Publishers, 404 Park Avenue South, New York, New York 10016.
Brooks/Cole Publishing Co., Belmont, California 94002.

Wm. C. Brown Co. Publishers, 135 South Locust Street, Dubuque, Iowa 52001.
Chandler Publishing Co., 124 Spear Street, San Francisco, California 94105.
Communications/Research/Machines, Inc. (CRM), Del Mar, California 92014.
R. G. Cowan, 1650 Redcliff, Los Angeles, California 90026.
Coward-McCann, Inc., 200 Madison Avenue, New York, New York 10016.
Cowles Book Co., Inc., 488 Madison Avenue, New York, New York 10022.
Dell Publishing Co., Inc., 750 Third Avenue, New York, New York 10017.
Dorsey Press, 1818 Ridge Road, Homewood, Illinois 60430.
Doubleday & Co., Inc., Garden City, New York 11530.
E. P. Dutton & Co., Inc., 201 Park Avenue South, New York, New York 10003.
Free Press, 866 Third Avenue, New York, New York 10022.
W. H. Freeman & Co., Publishers, 660 Market Street, San Francisco, California 94104.
Grune & Stratton, Inc., 757 Third Avenue, New York, New York 10017.
Harcourt Brace Jovanovich, Inc., 757 Third Avenue, New York, New York 10017 (formerly Harcourt, Brace & World, Inc.).
Harper & Row, Publishers, 49 East 33rd Street, New York, New York 10016.
Harvard University Press, 79 Garden Street, Cambridge, Massachusetts 02138.
Holden-Day, Inc., 500 Sansome Street, San Francisco, California 94111.
Holt, Rinehart & Winston, Inc., 383 Madison Avenue, New York, New York 10017.
Houghton Mifflin Co., 2 Park Street, Boston, Massachusetts 02107.
Jossey-Bass, Inc., Publishers, 615 Montgomery Street, San Francisco, California 94111.
Alfred A. Knopf, Inc., 201 East 50th Street, New York, New York 10022.
J. B. Lippincott Co., East Washington Square, Philadelphia, Pennsylvania 19105.
The Macmillan Co., 866 Third Avenue, New York, New York 10022.
McGraw-Hill Book Co., 330 West 42nd Street, New York, New York 10036.
David McKay Co., Inc., 750 Third Avenue, New York, New York 10017.
The M. I. T. Press, 50 Ames Street, Cambridge, Massachusetts 02142.
New American Library, Inc., 1301 Avenue of the Americas, New York, New York 10019.
W. W. Norton & Co., Inc., 55 Fifth Avenue, New York, New York 10003.
Oxford University Press, Inc., 200 Madison Avenue, New York, New York 10016.
Penguin Books, Inc., 7110 Ambassador Road, Baltimore, Maryland 21207.
Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, New York 10523.
Prentice-Hall, Inc., Englewood Cliffs, New Jersey 07632.
Principia Press, Granville, Ohio 48023.
Random House, Inc., 201 East 50th Street, New York, New York 10022.
The Ronald Press, 79 Madison Avenue, New York, New York 10016.
W. B. Saunders Co., West Washington Square, Philadelphia, Pennsylvania 19105.
Scott, Foresman & Co., 1900 East Lake Avenue, Glenview, Illinois 60025.
Universal Publishing & Distributing Corp., 235 East 45th Street, New York, New York 10017.
University of Chicago Press, 5750 Ellis Avenue, Chicago, Illinois 60637.
The University of Michigan Press, Ann Arbor, Michigan 48106.
University of Nebraska Press, 901 North 17th Street, Lincoln, Nebraska 68508.
Van Nostrand Reinhold Co., 450 West 33rd Street, New York, New York 10001 (formerly Van Nostrand).
John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10016.
Yale University Press, 149 York Street, New Haven, Connecticut 06511.

EQUIPMENT, ANIMALS, AND SUPPLIES

The following section contains lists of the names and addresses of numerous equipment manufacturers and notations of the type of equipment they sell. Also contained in this section are the lists of animal suppliers and books and pamphlets that may aid the high school teacher in building and buying laboratory apparatus.

Books and Pamphlets

The following are good reference books for the building and wiring of equipment. These texts also can aid in the choice of equipment. In addition the teacher may want to consult the annual edition of Science devoted to cross-referenced lists of equipment manufacturers and their products.

Cornsweet, T. The design of electrical circuits for the behavioral sciences. New York: Wiley, 1963. Pp. 329. No price available.
This is a how-to book. It assumes no previous knowledge of electronics and shows the reader how to build basic circuits from scratch.

Heckman, B., & Fried, R. A manual of laboratory studies in psychology. New York: Oxford University Press, 1965. Pp. 140. $2.50.
The book contains a good section on easily made, inexpensive equipment for labs.

Hetzel, M. L., & Hetzel, C. W. Relay circuits for psychology. New York: Appleton-Century-Crofts, 1969. Pp. 163. $3.50.
This programmed text demonstrates how to set up and program electromechanical behavioral equipment. It assumes no previous experience and is geared to the standard type of relay equipment supplied by Lehigh Valley, Grayson Stadler, and others.

Sidowski, J. B. Experimental methods and instrumentation in psychology. New York: McGraw-Hill, 1966. Pp. 803. $16.00.
The text describes some of the experimental methods and instrumentation used in the major areas of psychology. It contains a list of instrument suppliers and is a good reference book.

Snellgrove, L. Psychological experiments and demonstrations. New York: McGraw-Hill, 1967. Pp. 160. $3.95.
The book lists suppliers, shows how to construct apparatus, and provides experiments.

Psychological Apparatus

The following companies supply various electrical components from transistors to entire behavioral setups. Those listed as supplying general psychological apparatus have detailed catalogues that describe various forms of behavioral science equipment in pictures and words. Most of the companies supply free catalogues.

Another source of equipment is government surplus. Each state has an outlet of government surplus supplies that can only be purchased for educational uses. If you have an equipment problem, also consider contacting the psychology department of a nearby college or university for help.

Remember that if the equipment you are building is electrically powered, make sure everything is well insulated, and, if possible, plan your equipment such that it can be powered by batteries, thus avoiding shocking experiences!

Supplier	Specialty
Accurate Instrument Co. P. O. Box 66373 Houston, Texas	Solid state counters and timers
Advance Electric & Relay Co. 2435 North Naomi Street Burbank, California	Relays and general electronics equipment
Allied Control, Co., Inc. 2 East End Avenue New York, New York 10021	Relays, regular and subminiature
Allied Radio & Electronics Corp. 100 North Western Avenue Chicago, Illinois 60612	Electronic equipment and components, meters, switches, radio, relays, audio, etc.
American Electronic Labs, Inc. Box 552 MD Lansdale, Pennsylvania 19446	Bioresearch equipment
American Stock Gear Division Perfection Gear Co. 301 East 152nd Street Harvey, Illinois 60426	Gears of all types
Amphenol Commercial Connectors 1830 South 54th Avenue Chicago, Illinois 60650	Subminiature connectors and plugs
Applied Development 1131 Monterey Pass Road Monterey Park, California	Printed circuit cards, transistor cards
Avionics Research Products Corp. 6901 West Imperial Boulevard Los Angeles, California 90045	General psychological equipment
Bendix Red Bank 201 Westwood Avenue Long Branch, New Jersey	Solid state supplies
Bodine Electric Co. 2500 West Bradley Place Chicago, Illinois 60618	Motors, gears, gear reducers
Bourns, Inc. 1200 Columbia Avenue Riverside, California 92507	Solid state relays, potentiometers
Bradley Semiconductor Corp. 275 Welton Street Hamden, Connecticut 06511	Solid state supplies, photoelectric cells

Burstein-Applebee Co. 1012 McGee Street Kansas City, Missouri 64106	General electronics supplies
BRS-Foringer 5451 Holland Drive Beltsville, Maryland 20705	All forms of psychological lab apparatus, test cages, etc.; both solid state and electromechanical, timers, counters; also, devices for introductory psychology. Digibits. Designs circuits and equipment.
Cal-State Electronics 5222 Venice Boulevard Los Angeles, California 90019	General components; all new items at a discount
Clebar Watch Co. 1212 Avenue of the Americas New York, New York 10036	Stopwatches of all kinds
Computer Control Division Honeywell, Inc. Old Connecticut Path Framingham, Massachusetts 01701	Digital logic modules
Concord Radio 77 White Street New York, New York 10013	Resistors, transformers, microphones, general electronic equipment
Control Logic 3 Strathmore Road Natick, Massachusetts 01760	Control systems for experimental science (solid state and relay)
Davis Scientific Instruments 11116 Cumpston Street North Hollywood, California 91601	Pellet dispensers, universal feeders, liquid pumps, programmers, timers, classroom demonstration Skinner boxes, cumulative recorders
Denoyer-Geppert Co. 5235-59 Ravenswood Avenue Chicago, Illinois 60640	Anatomical charts and models
Detroit Controls Corp. 5900 Trumbull Avenue Detroit, Michigan 48208	Switches
Digital Equipment Corp. 146 Main Street Maynard, Massachusetts 01754	Modular cards, patch-board system, computers
Dimco-Gray Co. 207 East Sixth Street Dayton, Ohio 45402	Timers, microsecond timers
Dubin Electronics 103-02 Northern Boulevard Corona, New York 11368	Electronics components and assemblies, war surplus

Durant Manufacturing Co. Juneau Square South 600 North Cass Street Milwaukee, Wisconsin 53201	Printout counters
E & M Instrument Co., Inc. P. O. Box 14013 6030 England Street Houston, Texas 77021	Physiological recording systems
Eagle Signal Corp. 736 Federal Street Davenport, Iowa 52803	Precision synchronous motors, timers, counters
Edmund Scientific Co. 400 Edscorp Building 101 East Gloucester Pike Barrington, New Jersey 08007	Many scientific kits and gadgets, psychological equipment, prisms, color, etc.
EICO Electric Instrument Co., Inc. 131-01 39th Avenue Flushing, New York 11354	Electrical equipment, test instruments
Electra Distribution Co. 1912 West End Avenue Nashville, Tennessee 37203	General electronics equipment
Electric Motor Corp. Racine, Wisconsin	AC and DC motors
Esterline Angus Instrument Co. P. O. Box 24000 Indianapolis, Indiana 46224	Electric graph-recording devices (expensive but good)
Farrall Instrument Co. P. O. Box 658 Grand Island, Nebraska 68801	Inexpensive apparatus for psychological laboratories, some in kit form; Skinner box kit, timer kit, shock scrambler kit
Federated Purchaser, Inc. 11820 West Olympic Boulevard Los Angeles, California 90064	General electronic equipment
General Radio Co. 22 Baker Avenue West Concord, Massachusetts 01781	Variacs, strobes, sound-measuring equipment
Ralph Gerbrands Co. 8 Beck Road Arlington, Massachusetts 02174	Polygraph, color mixers, memory drums, pellet dispensers, cumulative recorders, timers, pursuit rotors, etc.
Grass Instrument Co. 101 Old Colony Avenue Quincy, Massachusetts 02169	Electronic stimulators, amplifiers
Grayson Stadler Co., Inc. West Concord, Massachusetts 01781	Complete line of behavioral equipment, relays and solid state

Hagen Manufacturing Co. Baraboo, Wisconsin 53913	Small motors, gear train speed reducers
Harvard Apparatus Co. 150 Dover Road Dover, Massachusetts 02030	General psychological equipment
Hawley Training Devices, Inc. 9616 Roosevelt Way, N.E. Seattle, Washington 98115	General psychological equipment
Haydon Industrial Controls Route B Torrington, Connecticut 06790	Motors, timers, recycle timers, clock movements
Herbach & Rademan, Inc. 1204 Arch Street Philadelphia, Pennsylvania 19107	Various electronic equipment (some government surplus). They put out a bulletin for $ .25 a year.
Hunter Manufacturing Co., Inc. P. O. Box 6066 Coralville Branch Iowa City, Iowa 52240	Decade timers, GSR amplifiers, eye blink apparatus, shock generators, relays
Iconix, Inc. 1175 O'Brien Drive Menlo Park, California 94025	Solid state modules for behavioral contol of research
International Applied Science Laboratory 510 South Franklin Street Hempstead, Long Island New York 11550	Flicker-fusion apparatus
Lafayette Instrument Co. North 26th & 52 Bypass Lafayette, Indiana	Assorted behavioral equipment and other electronic supplies
Lafayette Radio Electronics Department EE-8 P. O. Box 10 Syosset, Long Island New York 11791	Electronics supplies and equipment
Lectronic Research Lab., Inc. 715 Arch Street Philadelphia, Pennsylvania 19106	Wide variety of surplus electronics supplies, relatively inexpensive
Lehigh Valley Electronics, Inc. P. O. Box 125 Fogelsville, Pennsylvania 18051	Wide variety of behavioral research equipment, both relay and solid state. Catalogue shows good pictures of apparatus. They will also help you choose what you need. Training kits are available on loan basis.

Marietta Apparatus Co. 118 Maple Street Marietta, Ohio 45750	Psychological lab apparatus, wink reflex apparatus, dynamometer, color mixers and discs, illusion cards
Micro Switch Freeport, Illinois 61032	Microswitches of all kinds
Munsell Color Corp. 2441 North Calvert Street Baltimore, Maryland 21218	Munsell color papers, discs; brochure on color
Mutual Electronics 87 Main Street Johnson City, New York	Blank transistor cards, printed circuits
Newark Electronics Corp. 500 North Pulaski Road Chicago, Illinois 60624	Electronic equipment and supplies
Philco Corp. Church Road Lansdale, Pennsylvania	Solid state supplies, implanted receivers
Phipps & Bird, Inc. 6th & Byrd Streets Richmond, Virginia 23205	Biophysical lab equipment, timers, impulse markers, memory drums, electric mazes
Photron Instruments Co. 6516 Detroit Avenue Cleveland, Ohio 44102	Miniature multichannel strip chart
Physiological Electronics, Inc. P. O. Box 9831 Chevy Chase, Maryland 20015	General psychological equipment
Pomona Electronics Co., Inc. 1500 East 9th Street Pomona, California 91766	Cables, banana plugs
Porter-Mathews Scientific Co. U. S. Route 1 Princeton, New Jersey 08540	General psychological apparatus
Research Instrument Laboratory 51-06 216th Street Oakland Gardens, New York New York 10034	Tachistoscopes, brightness comparator
Research Media, Inc. 163 Eileen Way Syosset, Long Island New York 11791	Behavioral teaching equipment and booklets
Robotronic Products 1818 South Sixteenth Street Phoenix, Arizona 85034	Transistorized decade counters

Scientific Prototype Mfg. Co. 615 West 131st Street New York, New York 10027	General psychological equipment
Shaw Laboratories 163 Eileen Way Syosset, Long Island New York 11791	Perception devices
Sigma Instruments, Inc. 170 Pearl Street South Braintree, Massachusetts	Canned photorelays for counting and switching
Space Labs, Inc. 14630 Titus Street Van Nuys, California 91402	Control systems for experimental science
C. H. Stoelting Co. 424 North Homan Avenue Chicago, Illinois 60624	Psychological and educational tests (inexpensive), finger mazes, puzzle boxes, timers, stopwatches, polygraphs, recorders, plethysmographs, dynamometers, stereotaxics, manipulators
Systems Engineering Labs, Inc. P. O. Box 9148 6901 West Sunrise Boulevard Ft. Lauderdale, Florida 33310	Solid state data acquisition system, computers
Tech Service Corp. 5451 Holland Drive Beltsville, Maryland 20705	Transistor modules
Techni Rite Electronics, Inc. 25 Manton Avenue Providence, Rhode Island 02909	Miniature multichannel strip chart
Transistor Electronics, Inc. West Road Bennington, Vermont 05201	Solid state supplies
Video Instruments 2340 Sawtelle Boulevard Los Angeles, California	Solid state equipment
Wichita Apparatus Supply 3026 Stadium Drive Wichita, Kansas 67214	General purpose behavioral apparatus

Animal Suppliers

The following companies supply animals and/or what is necessary for their keeping and care. It might be wise to check your local pet store if only a few animals are needed. Do not buy animals from other than an authorized dealer or pet store. There are diseases that can be transmitted from animals to humans, and thus a reputable dealer is very important. Also remember that food for animals is cheaper in quantity. If you need only a small amount, the psychology department at a local university may be able to direct you to inexpensive sources of food.

It should be remembered that when you use animals in a study their treatment must be humane, as must be their disposal. The APA has rules for the treatment of laboratory animals, and these should be posted for those using the animals to read and obey. In terms of humane disposal, check with your biology department or with the psychology department at a college for appropriate methods. Animals should be "put to sleep" in as painless a manner as possible. Following are six of APA's "Principles for the Care and Use of Animals":

1. All animals must be lawfully acquired and their care and use in research shall be in compliance with Federal and local laws and regulations.
2. Care of all animals shall be in accordance with generally accepted laboratory practices, with appropriate consideration for bodily comfort, humane treatment, and sanitary environment.
3. Every effort must be made to avoid unnecessary discomfort to animals. Research procedures subjecting animals to discomfort shall be conducted only when such discomfort is required, and is justified by the objectives of the research.
4. Surgical procedures shall be done under appropriate anesthesia. Generally acceptable techniques to avoid infection and minimize pain must be followed throughout. The postoperative care of animals must minimize discomfort in accordance with generally accepted practices.
5. The disposal of animals must be done in a humane manner.
6. The use of animals by students shall be under the supervision of a qualified teacher or investigator and shall be in accordance with these Principles.

Remember that in choosing animals, most equipment that is supplied ready-made is for rats, mice, pigeons, and primates. Remember, too, that it is more expensive to work with primates, and their care is also expensive. Rats, pigeons, goldfish, turtles, and mice are probably the easiest animals to work with and can be kept with little expense.

Following the listing of suppliers is a list of books and papers that may aid you in caring for your laboratory animals and in giving you ideas for experimentation.

Supplier	Type of Animal
Amazon Animals Imports 919 N.W. 13th Street Ft. Lauderdale, Florida 33315	Monkeys
Ansco Labs 1735 Los Carneros Avenue Napa, California 94558	Animals of all sorts and animal supplies
Asiatic Animals Imports, Inc. P. O. Box 8125 International Airport San Francisco, California	Monkeys, other primates

Bio-Research Consultants 9 Commercial Avenue Cambridge, Massachusetts	Hamsters
California Caviary 10830 Prairie Avenue Inglewood, California 90303	Dogs, cats
Carolina Biological Supply Co. Burlington, North Carolina 27215	Planaria, earthworms, opossums, and supplies, bottles, dishes
Charles River Research Laboratories 251 Ballardvale Street North Wilmington, Massachusetts 01887	Rats
Chas. P. "Bill" Chase 136 N.W. 57th Avenue Miami, Florida 33126	Monkeys
Chase Wild Animal Farm Halifax, Massachusetts 02338	Monkeys
Clovelly Farms 5539 Beaner Crest Drive Lorain, Ohio 44053	Rabbits
Connecticut Valley Biological Supply Co. Valley Road Southampton, Massachusetts 01073	Planaria, pigeons, frogs, turtles
Dogs for Research 4996 South Redwood Road Murray, Utah 84107	Dogs
Ferndale Pet Supply 22041 Woodward Avenue Ferndale, Michigan 48220	Monkeys, other animals
General Biological Supply House, Inc. 8200 South Hoyne Street Chicago, Illinois 60620	Protozoa
Harlan Industries P. O. Box 29176 Cumberland, Indiana 46229	Rats
Holtzman Co. P. O. Box 4068 Madison, Wisconsin 53713	Rats, all types and categories

Lemberger Co. P. O. Box 482 Oshkosh, Wisconsin 54901	Insects, fish, amphibians, turtles, cats, pigeons
Morris Research Labs, Inc. 4000 Meriden Street Topeka, Kansas 66617	Cats
Nuclear Supply & Service 422 Washington Boulevard Washington, D. C.	Rats, guinea pigs, other small animals
Okatie Farms Pritchardville, South Carolina	Monkeys
Palmetto Pigeon Plant P. O. Box 1585 Sumter, South Carolina 29150	Pigeons
The Pet Farm 3310 N.W. South River Drive Miami, Florida 33142	Monkeys
Pratt Labs 1739 South 54th Street Philadelphia, Pennsylvania 19143	Cats
Primate Imports Corp. 34 Munson Street Port Washington, Long Island New York 11050	Monkeys
Redwood Game Farms 1955 North Redwood Road Salt Lake City, Utah 84116	Tryon rats, doves, pigeons
Reptile Aquatic Supply Co. 75 Route 208 Wykoff, New Jersey 07481	Turtles, lizards, reptiles
Research Animals, Inc. 226 Meyran Avenue Pittsburgh, Pennsylvania	Holtzman, Long Evans, Sprague Dawley, and Wistar rats
Simonsen Labs, Inc. Day Road Gilroy, California 95020	Wistar and Long Evans rats
White Animal Farm RFD 4 Scarboro, Maine 04074	Squirrels, marmosets, monkeys, doves, pigeons, parrots, parakeets

Animal Cages and Supplies

Acme Metal Products, Inc.
7757 South Chicago Avenue
Chicago, Illinois 60619

Aloe Scientific Co.
Brunswick Corp.
1831 Olive Street
St. Louis, Missouri 63103

Alvey-Ferguson, Hewitt-Robbins Inc.
3131 Disney Street
Cincinnati, Ohio 45209

Atlantic Metal Products, Inc.
21 Fadem Road
Springfield, New Jersey 07081

Bussey Products Co.
2750 West 35th Street
Chicago, Illinois 60632

Crest Ultrasonics Corp.
Scotch Road
Mercer County Airport
Trenton, New Jersey 08628

Disposable Lab Cages, Inc.
15th and Bloomingdale Avenues
Melrose Park, Illinois 60160

Econo-Lab Division
Maryland Plastics, Inc.
9 East 37th Street
New York, New York 10016

Fenco Cage Products
1188 Dorchester Avenue
Boston, Massachusetts 02125

Fisher Scientific Co.
1241 Ambassador Boulevard
St. Louis, Missouri 63132

G F Supply Division
Standard Safety Equipment
431 North Quentin Road
Palatine, Illinois 60067

Girton Manufacturing Co.
Millville, Pennsylvania 17846

Harford Metal Products, Inc.
Box R
Aberdeen, Maryland 21001

Hawley Training Devices, Inc.
9616 Roosevelt West, N.E.
Seattle, Washington 98115

Hoeltge, Inc.
5242 Crookshank Road
Cincinnati, Ohio 45238

Industrial Acoustics Co., Inc.
380 Southern Boulevard
Bronx, New York 10454

Kirschner Manufacturing Co.
Route 2, Box 160
Voshon, Washington 98070

Lab-Care Division
Research Equipment Co., Inc.
810 South Main Street
Bryan, Texas 77801

Labco Division
Partsco, Inc.
3003 Lamb Avenue
Columbus, Ohio 43219

Linderking Metal Products, Inc.
1000 South Linwood Avenue
Baltimore, Maryland 21224

M & J Assoc. Inc.
P. O. Box 24
Timonium, Maryland 21093

Samuel Perkins Co.
P. O. Box 302
Brookline, Massachusetts 02146

Porter Mathews Co.
U. S. Route 1
Princeton, New Jersey 08540

Ramco Equipment Corp.
40 Montgomery Street
Hillside, New Jersey 07205

Specialty Equipment Co.
P. O. Box 4182 North Station
Winston-Salem, North Carolina 27105

Stanford Glassblowing Labs, Inc.
4017 Fabian Way
Palo Alto, California 94303

Ultrasonic Industries, Inc.
6 Ames Court
Engineers Hall
Plainview, Long Island, New York

R. G. Wright Co.
2280 Niagara Street
Buffalo, New York 14207

Wahmann Manufacturing Co.
P. O. Box 6883
Baltimore, Maryland 21202

Animal Food

(First check local feed and grain supply stores)

Supplier	Specialty
Agway, Inc. P. O. Box 354 Ithaca, New York 14851	Dogs, cats, rats
Allied Mills, Inc. Lab Diets Division 110 North Wacker Drive Chicago, Illinois 60606	Dogs, cats, birds, rabbits, primates
Bordens Feed Supply Division 350 Madison Avenue New York, New York 10010	All animals
P. J. Noyes 101 Main Street Lancaster, New Hampshire 03584	Rat pellets, pigeon pellets, sugar pellets
Purina Lab Chow Checkerboard Square St. Louis, Missouri 63199	Feed for all animals

Books on the Care and Handling of Animals

Axelrod, H., & Bader, R. *The educational aquarium*. New Jersey: Tropical Fish Hobbyist Pub., 1962. $1.50.

Farris, E. J. (Ed.) *The care and breeding of laboratory animals*. New York: Wiley, 1950. $8.00.

National Academy of Sciences, National Research Council. *Animals for research*. (Pub. No. 1678) Washington, D. C.: Author, 1968. $3.25 paper.

Silvan, J. *Raising laboratory animals*. New York: Natural History Press, 1966. $1.45 paper.

Universities Federation for Animal Welfare. *Handbook on care and management of laboratory animals*. (3rd ed.) Baltimore, Md.: Williams & Wilkins, 1967. $23.00. (A very comprehensive work)

ADDRESSES OF ORGANIZATIONS

Organizations are included in the present list for a variety of reasons:

1. They may provide (usually without cost and sometimes in quantity) booklets, pamphlets, fact sheets, brochures, newsletters, and similar materials that could be useful for various segments of a high school psychology course.
2. They may provide information useful to students who are in the process of exploring career possibilities in areas directly or indirectly related to psychology.
3. They may provide information, primarily for teachers, relating to the existence of formal training opportunities, availability of funds, etc.
4. They may provide information relevant to personal problems, handicaps, or difficulties, and are often able to suggest local helping facilities--both to inform teachers further and to assist students who may have, for one reason or another, particular concerns.

There is considerable overlap. Many or most organizations listed fulfill at least two of the foregoing functions. Some fulfill all four. Some exist almost exclusively for the dissemination of information to the lay public while others are much more specifically oriented toward their professional members (although all seem to have some kind of ongoing public information activity). If the name of an organization gives few or no clues to its function, its major concern has been indicated parenthetically. The list is as exhaustive as present resources permit but very probably has important omissions. Many organizations have local chapters to which they may refer inquiries.

The most important source of information directly relevant to high school psychology teachers is:

American Psychological Association
1200 Seventeenth Street, N.W.
Washington, D. C. 20036

Organizational Address List

Academy of Religion and Mental Health
16 East 34th Street
New York, New York 10016

Addicts Anonymous (alcoholism)
Box 200
Lexington, Kentucky

Alcoholism and Drug Addiction Research Foundation
24 Harbord Street
Toronto, Ontario, Canada

Al-Non Family Group Headquarters
125 East 23rd Street
New York, New York 10010

American Academy of Arts & Sciences
280 Newton Street
Brookline Station
Boston, Massachusetts 02146

American Anthropological Association
1703 New Hampshire Avenue, N.W.
Washington, D. C. 20009

American Association for Humanistic Psychology
584 Page Street
San Francisco, California 94117

American Association for Laboratory Animal Science
P. O. Box 10
Joliet, Illinois 60434

American Association for Social Psychiatry
P. O. Box 4842
Washington, D. C. 20008

American Association for the Advancement of Science
1515 Massachusetts Avenue, N.W.
Washington, D. C. 20005

American Association of Criminology
1620 Arthur Place
Eugene, Oregon 97402

American Association of Instructors for the Blind
711 Fourteenth Street, N.W.
Washington, D. C. 20005

American Association of Marriage Counselors
104 East 40th Street
New York, New York 10016
(or)
27 Woodcliff Drive
Madison, New Jersey 07940

American Association of Religious Therapists
Huntington Medical Building
Miami, Florida 33131

American Association on Mental Deficiency
P. O. Box 96
Willimantic, Connecticut 06226

American Board on Counseling Services
1605 New Hampshire Avenue, N.W.
Washington, D. C. 20009

American Catholic Psychology Association
Fordham University
Bronx, New York 10458

American Catholic Sociological Society
Rosary College
River Forest, Illinois 60305

American Correctional Association (crime)
1000 Shoreham Building
15th & H Streets, N.W.
Washington, D. C. 20005

American Educational Research Association
1126 Sixteenth Street, N.W.
Washington, D. C. 20036

American Ethnological Society
Dr. June Collins (Corresponding Secretary)
State University College, Buffalo
1300 Elmwood Avenue
Buffalo, New York 14222
(Address moves with Secretary)

American Genetic Association
1028 Connecticut Avenue, N.W.
Washington, D. C. 20036

American Group Psychotherapy Association
1790 Broadway
New York, New York 10019

American Humane Association (children)
P. O. Box 1266
Denver, Colorado 80201

American Institutes for Research in the Behavioral Sciences
135 North Bellefield Avenue
Pittsburgh, Pennsylvania 15213

American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

American Museum of Natural History
Central Park West
New York, New York 10021

American Nurses Association, Inc.
10 Columbus Circle
New York, New York 10019

American Orthopsychiatric Association
1790 Broadway
New York, New York 10019

American Personnel and Guidance Association
1607 New Hampshire Avenue, N.W.
Washington, D. C. 20009

American Psychiatric Association
1700 Eighteenth Street, N.W.
Washington, D. C. 20009

American Psychoanalytic Association
One East 57th Street
New York, New York 10022

American Psychological Association
1200 Seventeenth Street, N.W.
Washington, D. C. 20036

American Society for Psychical Research
5 West 73rd Street
New York, New York 10023

American Society of Clinical Hypnosis
800 Washington Avenue, S.E.
Minneapolis, Minnesota 55414

American Society of Criminology
Kent School of Social Work
University of Louisville
Louisville, Kentucky 40208

American Sociological Association
1001 Connecticut Avenue
Washington, D. C. 20036

American Speech and Hearing Association
9030 Old Georgetown Road
Washington, D. C. 20014

American Statistical Association
810 Eighteenth Street, N.W.
Washington, D. C. 20006

Animal Behavior Society
Department of Zoology
University of Oklahoma
Norman, Oklahoma 73069

Association for Computing Machinery
1133 Avenue of the Americas
New York, New York 10036

Association for Family Living
6 North Michigan Avenue
Chicago, Illinois 60602

Association for the Education of Teachers in Science
Wayne State University
Detroit, Michigan 48202

Association for the Gifted (children)
c/o National Education Association
1201 Sixteenth Street, N.W.
Washington, D. C. 20036

Association of Existential Psychology and Psychiatry
815 Park Avenue
New York, New York 10021

Big Brothers of America (family)
341 Suburban Station Building
Philadelphia, Pennsylvania 19103

Big Sisters, Inc. (family)
235 West 23rd Street
New York, New York 10011

B'nai B'rith Vocational Service
1640 Rhode Island Avenue, N.W.
Washington, D. C. 20036

Brain Research Foundation
343 South Dearborn Street
Chicago, Illinois 60604

Catholic Big Brothers (family)
122 East 22nd Street
New York, New York 10010

Children's Bureau
United States Department of Health, Education, and Welfare
330 Independence Avenue, S.W.
Washington, D. C. 20201

Child Study Association of America
9 East 89th Street
New York, New York 10028

Child Welfare League of America
44 East 23rd Street
New York, New York 10010

Council on Social Work Education
345 East 46th Street
New York, New York 10017

Daughters of Bilitis (female homosexuality)
1005 Market Street
San Francisco, California 94103

Educational Media Council, Inc.
1346 Connecticut Avenue
Washington, D. C. 20036

Educational Testing Service
Princeton, New Jersey 08540

Epilepsy Association of America
111 West 57th Street
New York, New York 10019

Family Service Association of America
44 East 23rd Street
New York, New York 10010

Florence Crittenton Association of America (unwed mothers)
608 South Dearborn Street
Chicago, Illinois 60605

Foundation for Better Living (family)
177 East 77th Street
New York, New York 10021

Foundation for Research on Human Behavior
220 East Huron Street
Ann Arbor, Michigan 48104

Future Physicians Clubs
c/o American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

Future Scientists of America
c/o National Science Teachers Association
1201 Sixteenth Street, N.W.
Washington, D. C. 20036

Gam-Anon (for relatives of gamblers)
P. O. Box M
Norwalk, California 90650

Gamblers Anonymous
P. O. Box 17173
Los Angeles, California 90017

General Service Board of Alcoholics Anonymous
P. O. Box 459
Grand Central Station
New York, New York 10017

Genetics Society of America
Department of Zoology
University of Texas
Austin, Texas 78712

Goodwill Industries of America
1913 N Street, N.W.
Washington, D. C. 20036

History of Science Society
1628 West Ninth Street
Lawrence, Kansas 66044

Human Factors Society
Box 1369
Santa Monica, California 90406

International Reading Association
University of Delaware
P. O. Box 695
Newark, Delaware 19711

International Society of Psychology
2104 Meadowbrook Drive
Austin, Texas 78703

Mattachine Society of New York
(male homosexuality)
243 West End Avenue
New York, New York 10023

Mental Health Materials
Center, Inc.
419 Park Avenue South
New York, New York 10016

Narcotics Anonymous
P. O. Box 21134
Kalorama Station
Washington, D. C. 20009

National Academy of Sciences
National Research Council
2101 Constitution Avenue, N.W.
Washington, D. C. 20037

National Association for Mental
Health
10 Columbus Circle
New York, New York 10019

National Association for Music
Therapy
P. O. Box 610
Lawrence, Kansas 66044

National Association for Research
in Science Teaching
Life Sciences
Department of Biology
Purdue University
Lafayette, Indiana 46207

National Association for Retarded
Children
99 University Place
New York, New York 10003
(or)
386 Park Avenue South
New York, New York 10016
(or)
420 Lexington Avenue
New York, New York 10017

National Association of Biology
Teachers
1420 N Street, N.W.
Washington, D. C. 20005

National Association of Recreational Therapists
Activity Therapy Department
Winnebago State Hospital
Winnebago, Wisconsin 54985

National Association of Sheltered
Workshops (handicapped)
Suite 410
1522 K Street, N.W.
Washington, D. C. 20005

National Association of Social
Workers
2 Park Avenue
New York, New York 10017

National Association of the Deaf
905 Bonifant Street
Silver Spring, Maryland 20910

National Catholic Conference on
Family Life
National Catholic Welfare Conference
1312 Massachusetts Avenue, N.W.
Washington, D. C. 20005

National Council for Synanon (drugs)
35 Riverside Drive
New York, New York 10023

National Council for the Social
Studies
c/o National Education Association
1201 Sixteenth Street, N.W.
Washington, D. C. 20036

National Council on Alcoholism
2 Park Avenue
New York, New York 10016
(or)
301 Park Avenue & 50th Street
New York, New York 10016

National Council on Crime and Delinquency
44 East 23rd Street
New York, New York 10010

National Council on Family Relations
1219 University Avenue, S.E.
Minneapolis, Minnesota 55414

National Education Association
1201 Sixteenth Street, N.W.
Washington, D. C. 20036

National Epilepsy League
222 North Michigan Avenue
Chicago, Illinois 60601

National Family Life Foundation
1790 Broadway
New York, New York 10019

National Institute of Mental Health
5454 Wisconsin Avenue
Chevy Chase, Maryland 20015

National Institute of Science
Science Department
Huston-Tillotson College
1820 East Eighth Street
Austin, Texas 78702

National League for Nursing
10 Columbus Circle
New York, New York 10019

National Organization for Women
33 West 93rd Street
New York, New York 10025

National Rehabilitation Association
1522 K Street, N.W.
Washington, D. C. 20005

National Science Foundation
1951 Constitution Avenue
Washington, D. C. 20550

National Training Laboratories
1201 Sixteenth Street, N.W.
Washington, D. C. 20036

National Urban League (black concerns)
55 East 52nd Street
New York, New York 10022

Parapsychological Association
Box 152
University of Virginia Hospital
Charlottesville, Virginia 22901

Parapsychology Foundation
29 West 57th Street
New York, New York 10019

Philosophy of Science Association
Department of Philosophy
Michigan State University
East Lansing, Michigan 48823

President's Committee on Employment of the Handicapped
United States Department of Labor
Constitution Avenue & Fourteenth Street, N.W.
Washington, D. C. 20211

Recovery, Incorporated (ex-mental patients)
116 South Michigan Avenue
Chicago, Illinois 60603

Rescue, Inc. (suicide)
Boston Fire Headquarters
115 Southampton Street
Boston, Massachusetts 02118

Rural Sociological Society
c/o Department of Rural Sociology
South Dakota State University
Brookings, South Dakota 57006

Rutgers Center of Alcohol Studies
Rutgers University
New Brunswick, New Jersey 08903

Science Clubs of America
1719 N Street, N.W.
Washington, D. C. 20036

Science Service
1719 N Street, N.W.
Washington, D. C. 20036

Scientists' Institute for Public Information
30 East 68th Street
New York, New York 10021

Sex Information and Education Council of the United States, Inc.
1855 Broadway
New York, New York 10019

Social Science Research Council
230 Park Avenue
New York, New York 10017

Society for Experimental Biology and Medicine
630 West 168th Street
New York, New York 10032

Society for Projective Techniques and Personality Assessment
1070 East Angeleno Avenue
Burbank, California 90205

Society for Research in Child Development
University of Chicago
5750 Ellis Avenue
Chicago, Illinois 60637

Society for the Psychological Study of Social Issues
P. O. Box 1248
Ann Arbor, Michigan

Society for the Psychological Study of Social Problems
LRDC, University of Pittsburgh
400 South Craig Street
Pittsburgh, Pennsylvania 15213

Society for the Scientific Study of Sex
Suite 1104
12 East 41st Street
New York, New York 10017

Society of Behaviorists
1515 North Euclid Avenue
Dayton, Ohio 45406

Summerhill Society (education)
5 Beekman Street
New York, New York 10038

Synanon Foundation, Inc. (drugs)
1910 Ocean Front Walk
Santa Monica, California 90405

United Cerebral Palsy Association
66 East 34th Street
New York, New York 10016

SOME WAYS OF INCREASING STUDENT INVOLVEMENT

It is a widespread conviction in academic circles that school experiences that maximize student involvement are more likely to lead to desirable educational outcomes. It is neither possible nor appropriate to define the specific manner in which the high school psychology course should be taught. The intent of the present material is merely to point out some avenues that teachers might wish to explore and to indicate sources useful for further information.

The following section contains three parts: the first presents some alternatives or supplements to a straight lecture approach; the second relates to problems of evaluation and measurement; and the third consists of brief descriptions of quite specific examples, demonstrations, and hints that some experienced teachers have found to be useful.

It must be emphasized with reference to all three sections that only a very few of many extant routes can be commented on feasibly or described here. It also must be emphasized that, particularly with regard to the first section, very few specific validating data exist. It is impossible to state that _any_ single technique is better than all or any others. Such a statement depends too much on the skills and background of the instructor, the nature of the students, local resources and attitudes, and many other factors. The approaches and procedures included here are a small sampling and were chosen _only to illustrate possibilities_.

Some Alternatives

Classroom Discussions

Teaching procedures that allow frequent opportunities for classroom discussion would appear to be so obviously desirable that it may seem redundant to mention them. While classroom discussion is not viewed by even its most ardent advocates as always being the most appropriate technique for learning all possible materials, there are probably some kinds of learning that can be acquired only in a discussion situation.

Some likely outcomes for classroom discussions are: improved information-retrieval skills, better ability to identify areas in need of clarification, better capacity to identify relevance and to evaluate validity, improved ability to recognize the existence of alternatives and to synthesize the superficially disparate, and increased ability to use words as vehicles of thoughts and to understand the thoughts of others. Benefits also may exist in the personal-social realm: greater self-confidence and willingness to participate, lessened dependence on existing peer group attitudes, improved ability to avoid personally based conflict, motivation for further independence, etc.

Further information on the use of the discussion technique, cast in specific and usable terms, can be found in the following two publications. Included are suggestions for handling the selection of topics, the creation of groups, the use of positive reinforcement, the place of lectures and assigned work in planning for discussions, the problem of the over- and underparticipant (and leader), group size, group morale, and others.

Maier, N. R. F. _Problem-solving discussions and conferences_. New York: McGraw-Hill, 1963.

Turner, R. H. _Promoting worthwhile discussions in the classroom_. Chicago: Science Research Associates, 1968.

The following publications address themselves more generally to teaching procedures. Although written by psychologists and primarily oriented toward the teaching of psychology, they contain suggestions of potential use for any teacher (as do the Maier and Turner publications).

McKeachie, W. J. Teaching tips: A guidebook for the beginning teacher. (6th ed.) Lexington, Mass.: D. C. Heath, 1969.
Walker, E. L. Utilizing student motivation for mastering content in psychology. In G. K. Smith (Ed.), Current issues in higher education. Washington, D. C.: American Association for Higher Education, 1963.
Walker, E. L., & McKeachie, W. J. Some thoughts about teaching the beginning course in psychology. Belmont, Calif.: Brooks/Cole, 1967.

Student-Taught Classes

Another technique that may increase students' involvement in their own education utilizes behavioral objectives (see later section on evaluation and measurement) and student-taught classes. The teacher prepares instructional goals and distributes copies to the students. A flexible schedule is set up that indicates the approximate class day on which each of the objectives will be covered. Each student then prepares a "minilecture" (which may be in the form of a demonstration, for instance) for every objective to be included in a class period. These minilectures are worked up in conjunction with text materials and whatever supplementary information may be available in the library and/or a materials center. Actual class time is spent with the students teaching the class. Since students are called on at random, all must come prepared to teach each of the objectives each day.

The role of the teacher in the student-taught classroom is to call on students, to evaluate and reinforce their performance, to call for additional comments from other students at the conclusion of each minilecture, and (as a last resort) to clarify, amplify, and supplement what the students have said. The technique may work most effectively with relatively small groups (so that there is a high probability that every student will be called on each time his group meets). The teacher who is content oriented has control over the nature of the course to as great a degree as he chooses. By specifying objectives precisely (particularly at levels beyond mere knowledge), the teacher can do much to assure that the students will engage in behaviors that will make course content applicable to real life.

Laboratory Exercises

Mark Twain once observed, "A fellow who takes a bull by the tail gets as much as sixty or seventy times the information as one who doesn't." Although research evidence is not entirely consistent, there is agreement among many teachers that, ideally, an introductory psychology course, at whatever level, would include participation in laboratory work as a regular part of its activities. A feeling that "there is no substitute for getting your hands dirty" appears to be among the most basic convictions of scientists in many fields. Moreover, students frequently seem to view the laboratory experience as among the most valuable parts of any course.

Laboratory experiences can be defined broadly and flexibly. Some attempt to illustrate this flexibility has been made by describing, on the following pages, approaches that some teachers have used. Their variety reflects the fact that many instructors, because of equipment and/or other limitations, may not find laboratory work in the more formal sense feasible.

Field observation. Behavior occurs out of as well as in a laboratory. In the past century, psychology has moved from more informal observations in the field to more contrived--and controlled--laboratory investigations. But all behavior is of interest to the psychologist. Participation in field observation should aid the student (a) in contrasting the older methods with the newer ones and observing the continuity from one to the other; (b) in comparing the advantages and disadvantages of less formal with more rigorous experimental procedures; (c) in seeing how field observations may generate hypotheses for more controlled study; and (d) in increasing his interest by making him an active data gatherer. The student's world is full of situations in which behavior is occurring and developing--in newborn kittens, a goldfish tank, a younger brother, a trip to the zoo or to an old folk's home, or the first few practice sessions of the high school drill team.

In a typical experiment, the independent variables ("causes") and the dependent variables ("behavior") are usually well specified in the design. In field observation, the situation is more often one of accepting behavior as it occurs, typically with less intervention and structuring. One may plan to see what happens with children on a playground and hopefully be able to ascertain some events that regularly precede others. One may go further and attempt to manipulate some condition, for instance, by calling for an ice cream break in the middle of recess and seeing what follows. A student could decide on a specific dependent variable to be observed (such as thumb sucking) and then try to discern any consistent antecedent condition, for children in general or for a specific child, that leads to the behavior selected.

The range of behavioral situations to be studied is limitless, and the teacher may wish to encourage the creative development of problems. However, some guidance from various laboratory and instructor's manuals may be useful. One particularly useful manual is:

Stokes, A. W. Animal behavior in laboratory and field. San Francisco: W. H. Freeman, 1968.

A unique feature of the Stokes book is the fact that any section may be ordered separately for $ .25.

Some other laboratory manuals (for reviews and complete bibliographic information, see preceding section on laboratory manuals) that have exercises appropriate for field-observation purposes are:

Baker, Weisiger, & Taylor (1960). Exercise 21, entitled "The Work Curve," is particularly appropriate.

DeBold (1968). All exercises can be performed outside of class with friends as subjects.

Heckman & Fried (1965). Several exercises are designed to use "naive friends" as subjects while several others can be used by the teacher as demonstrations with the whole class serving as subjects simultaneously.

Jung & Bailey (1966). All exercises require students to observe behavior of subjects their own age in out-of-class situations.

Ost, Allison, Vance, & Restle (1969). Exercises 18 and 19, called "Two Person Games," are particularly relevant.

"Discovery" laboratories. There are some instructors who, although using equipment and formally scheduled laboratory sessions and settings, prefer to employ a "discovery" approach. In one such attempt, pairs of students were provided with a rat and a Skinner box, given assistance in wiring the equipment for whatever set of conditions they desired, instructed in animal care and handling, and then required to produce a behavioral index of a discrimination between the presence and absence of a signal.

Students were provided, if they asked, with references that would assist them and were informed that at the end of 5 weeks (10 clock hours) they would meet with the teacher to discuss their techniques and their successes and failures. During this period, the students essentially "discovered" the principles of operant conditioning (which had not yet been covered in either class discussions or assigned readings). Students handled the challenge in ways that were sometimes imaginative, sometimes inefficient, but usually successful.

Games and simulation techniques. Games heavily emphasize simulation of real life situations. Teachers who are enthusiastic about the approach feel that students can learn something of value that has more potential for transfer to daily living than is the case with any more traditional approach yet devised. They also believe that difficult, abstract concepts can be presented in a concrete and therefore more easily understood manner. In one typical simulation situation designed to teach concepts of group interaction, coalition formation, and role-playing, students participated in an "Establishment vs. Younger Generation" game. Three persons on each side vied both within and between the groups for status, power, and influence. As games are usually used, they are replete with random variables (such as sudden news bulletins that can change the flavor of the entire situation). They also typically involve each person's changing sides and playing the role of an erstwhile opponent. The latter step is given particular importance by teachers who employ simulation techniques because of their conviction that they provide invaluable experience both in role-playing and in learning to tolerate and appreciate alternate points of view and interpretations.

Two sources for further information about the games approach are:

Boocock, S. S., & Schild, E. O. (Eds.) Simulation games in learning. Beverly Hills, Calif.: Sage Publications, 1968.

Carlson, E. Learning through games. Washington, D. C.: Public Affairs Press, 1969.

Cross-age teaching. To assist students to learn about themselves as learners, as teachers, and, even more broadly, as people, some instructors have used an approach called cross-age teaching. The procedure involves arranging for students to work as teachers with a variety of persons--retardates, normal children and adults, geriatric patients, and others. The approach is seen by its proponents as not only providing worthwhile involvement for students (with continual opportunities for seeing in action many of the concepts of learning and of educational and developmental psychology) but also as giving some educational services to the community. Further, users of the technique point out, students who might not otherwise have considered the possibilities of a permanent teaching career may begin to include the profession among their alternatives.

On-the-job observation and supervision are felt by most users to be imperative but may be difficult to arrange. Equally important is providing an opportunity for the teaching students to meet together on a regular basis to exchange experiences. One source for further information is noted below and is available from the authors at the Harvard Graduate School of Education:

Mosher, R. L., & Sprinthall, N. A. Psychological education in secondary schools: A program to promote individual and human development. Cambridge, Mass.: Harvard Graduate School of Education, 1970. (Mimeo)

Evaluation and Measurement

The material in the present section is designed to provide some source materials to help teachers in their handling of grading and testing problems.

Behavioral Objectives

One of the most significant developments in education in recent years has been increased emphasis on stating desired educational outcomes in behavioral terms and as specifically as possible for purposes of measurement, rather than in the much vaguer phrases that were typical a decade or so ago. In its simplest form, a behavioral objective is a statement describing the behaviors the student should be able to perform to demonstrate that he has learned. Such objectives need not limit themselves to the knowledge level: the student may be asked to demonstrate that he understands and can apply what he has learned. The following behavioral objective demonstrates four of the levels from Bloom's (1956) *Taxonomy of Educational Objectives*:

1. Knowledge level:	The student is able to list the major findings of Harlow's research on the nature of love, *and*
2. Synthesis level and 3. Evaluation level:	state *and* critically evaluate the principles and major conclusions that may be derived from it, *and*
4. Application level:	demonstrate his further understanding of the principles by describing the principles he would incorporate in rearing his own children *a la* Harlow.

The present material is *not* intended to instruct the teacher in the use of behavioral objectives but merely to suggest them as one route to be explored in the total evaluation-measurement context. Behavioral objectives can be prepared regardless of the particular teaching method the teacher chooses to use. The following books are sources of useful information regarding the writing and thinking through of such objectives:

Bloom, B. (Ed.) *Taxonomy of educational objectives*. *Handbook I: Cognitive domain*. New York: Macmillan, 1956.

Gronlund, N. E. *Stating behavioral objectives for classroom instruction*. New York: Macmillan, 1970.

Mager, R. F. *Preparing instructional objectives*. Palo Alto, Calif.: Fearon, 1962.

Popham, W. J., & Baker, E. L. *Establishing instructional goals*. Englewood Cliffs, N. J.: Prentice-Hall, 1970.

Popham, W. J., & Baker, E. L. *Planning an instructional sequence*. Englewood Cliffs, N. J.: Prentice-Hall, 1970.

Item Selection

In deciding what type of item to use on a particular test, the teacher should consider the strengths and weaknesses of a variety of kinds of questions. The following inexpensive paperback book is an excellent source for anyone interested in improving his tests:

Wood, D. A. *Test construction*. Columbus, Ohio: Merrill, 1961.

Knowledge of Results

Regardless of whether one calls it reinforcement, reward, feedback, or knowledge of results, available data substantiate that something should happen immediately after a student responds. At least one economical device in the nature of a special answer sheet is now available that provides immediate knowledge of results as well as an opportunity for the student to modify his responses while taking the test. His first response, correct or not, is recorded permanently, as are any subsequent responses. Information about the device can be obtained from:

Van Valkenburgh, Nooger & Neville, Inc.
15 Maiden Lane
New York, New York 10038

Demonstrations

The present report represents an attempt to provide materials that will contribute to the enrichment of the first course in psychology. In addition, the program members attempted to write brief descriptions of demonstrations, techniques, examples, and procedures that they personally have found to be useful in their own teaching. These are presented on the following pages, not as exemplars of the ideal, but rather as suggestions and illustrations that might stimulate continued exchanges of similar material among psychology instructors at both the secondary school and college levels. The program members readily acknowledge the limitations of the materials and urge teachers to provide the APA clearinghouse with additional examples of "things that have worked."

The examples included here vary considerably (and deliberately) in level of generality from "minigimmicks" (often referred to as a method of demonstrating a single phenomenon) to "maxigimmicks," which can approach the level of providing basic organizational principles or schemes.

Some Minigimmicks

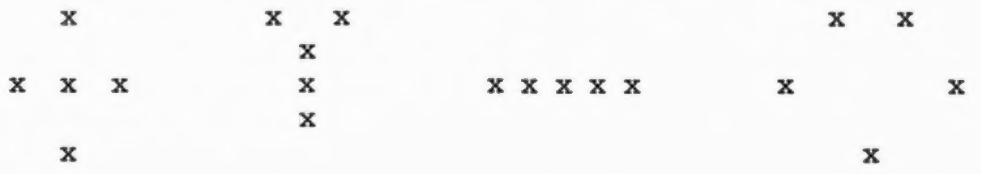
1. The Purkinje phenomenon can be demonstrated in the classroom by the use of a dimmer-switch on the room light. Pieces of colored construction paper are placed in front of the class, and the lights are dimmed from bright to dark. The class observes which of the colors are the first to pass from view. Then, as the lights are turned back to a bright setting, the class can observe which colors are first to return to view. Common objects such as fruits or vegetables can be used in place of colored paper.

2. Perceptual set can be demonstrated by bringing a bottle of water into the classroom and informing the students that it is essence of peppermint. Tell them you are concerned with the sense of smell and wish to see how fast the odor of peppermint permeates the room. Have them raise their hands when they believe they can smell peppermint. A surprising number will raise their hands. Go on to explain that the bottle contained only water and that telling them that it was peppermint influenced their perception. The technique can also be used to demonstrate imagery that is other than visual in nature.

3. A strobe light can be used to visually stop the motion of a fan (or other moving object). The strobe light must be calibrated so that the exact number of flashes per second can be measured. The strobe light is then focused on the blades of the rotating fan, and the frequency of flashes is increased or decreased as necessary until the fan appears to stop moving. Von Bekesy used such a technique to study the movement of the basilar membrane of the

ear. The demonstration is simple and interesting and leads to a description of Von Bekesy's measurement of the vibrations of the basilar membrane and other perceptual areas.

4. The *standard communication networks* mentioned in many introductory texts can be well illustrated by the use of five chairs, five students, and five pieces of paper. The four basic seating plans are diagrammed below in increasing order of difficulty from left to right:



Each student should start with one piece of paper. The goal for each network should be stated as having one student end up holding all five pieces of paper. No spoken communication is permitted. "Communication" is accomplished by passing, on a signal from the instructor, a single piece of paper to a desired recipient who is next to the passer. Any student may hold more than one piece of paper at a time but may only pass one piece at each successive signal from the instructor. A score is kept either by counting the total number of passing signals emitted by the instructor before all pieces are in the possession of one student or by counting the number of individual passes. Starting with the easiest seating plan teaches the students how to use the nets so that performance on the hardest (based on previous measures) is considerably more efficient than it is for groups that start with the hardest.

5. The *positioning of the bipolar cells of the eye* between the rods and cones and the pupil can be demonstrated easily by having students make a very small pin hole through a piece of shirt cardboard or other thin but opaque matter capable of blocking out most of the peripheral light. When the pin hole is directed toward a bright light source (other than sunlight), movement of the cardboard causes the bipolar cells to cast shadows on the rods and cones. The reflection is reported as a flickering of the light source.

6. To demonstrate the *positioning of the rods and cones around the retina*, find any non-color-blind student and seat him in a chair at the front of the class and facing it. Take a pen or pencil of some bright color, being careful not to let the subject see it. At a distance of 6-8 feet, position yourself beside and slightly behind the student. Instruct him to fixate on a desk corner directly in front of him at eye level, emphasizing that he is to look directly at that point until the demonstration is completed. Tell the student that you have a pen in your hand and that you will walk slowly around in front of him. Instruct him to do two things: (*a*) identify when he can first see the pen and (*b*) state the pen's color as soon as he can. Make sure his eyes do not leave the fixation point.

7. *Cultural bias in intelligence tests* and similar measures can be illustrated by administering the "Chitlings Test," a questionnaire made up of items to which typical whites in the American culture have had little exposure. The test can be found in *The New Republic*, December 16, 1967.

8. To illustrate the *uselessness of nonscientific approaches* in general, and of astrology in particular, obtain a book that describes personality characteristics for each of the 12 astrological signs. Prepare short descriptions of each of these and present them in random order to the subjects, asking them to select the one that describes them. Ask subjects to record birthdate and determine astrological sign. Find the number of "correct" matches in the class and compare it with the total number in the group.

9. To illustrate the *learning process, trial-and-error, gradual elimina-*

tion of errors, and the like, construct a maze, using students and/or chairs for boundaries. Send a blindfolded student through the maze as many times as necessary to perform the task without errors, assigning other students to tally errors for each trial. Ask each "rat" to explain as explicitly as he can the processes he used in learning the maze.

10. To demonstrate the difficulty of learning a maze with only the immediate cues available to the animal, draw a fairly complex maze on 8 1/2 X 11 inch paper, including 10 cul-de-sacs and placing a number at the end of each. A small viewing tube, formed from a piece of paper and taped into shape, is used by the subject to find the way through the maze. The tube is held just far enough above the paper so that only the maze pathway and part of the wall on each side are visible to the subject (draw the walls approximately 1/4 inch in thickness and crosshatch them). The nonviewing eye should be closed. A student experimenter can record the time taken to reach the end of the maze, the cul-de-sacs entered (the subject calls out the number when he reaches the end of each one), and the number of trials to achieve the criterion. The serial position effect can be nicely illustrated by the order of elimination of errors. The number of subjects who traverse the maze successfully once only to make errors on the succeeding trial illustrates the desirability of a more severe criterion of learning than a single correct response. The interaction effects of time and number of errors can also be illustrated.

11. An inexpensive tachistoscopic attachment for an ordinary slide projector can be used to illustrate a number of important concepts related to perception, motivation, and personality. The tachistoscope controls the length of presentation of visual stimuli. Differential thresholds for neutral and taboo words, closure with incomplete words and/or letters, accuracy of recognition of misspelled words, and the like, can be demonstrated.

12. To demonstrate auditory localization, walk up to a student in the front row and ask him to shut his eyes tightly with his head level and positioned as if he were looking straight ahead. Sound stimuli can be provided most simply by snapping the fingers; an alternative might be a toy cricket. Instruct the student to point toward the source of the sound. On either side, at any altitude, the latency and accuracy of identification are nearly 100 per cent efficient. However, on snaps directly in the central plane of the head (such that sound waves reach both ears simultaneously), the latency of response increases significantly, and usually before many snaps, the subject will make a markedly deviant response by pointing too high or too low.

13. Hypochondriacal disorders may be regarded as hypersensitivity to normally occurring stimuli, often internal (such as heart-rate changes, muscle twitches, etc.). To illustrate this in class, draw the attention of the students to the chairs on which they are sitting--the hard wood, exposed rivets, uncomfortable rod back, etc. Strongly emphasize the discomfort of the seats, then ask for a show of hands of those who are more uncomfortable than they were before. Point out that their bodies are now bombarded with no new or unusual stimuli and that the bleachers at a basketball game are generally much more uncomfortable when the home team is losing or when the blind date turns out unfortunately. Emphasize that hypochondriacal disorders are not diseases but merely exaggerations of normal situations, pointing out relationships to various life conditions at the present (a dull lecture) or in the past (such as living in a family preoccupied with gastrointestinal complaints because a relative died of stomach cancer).

14. Shaping can be illustrated through class participation in a handclapping procedure. One subject is chosen and sent from the room while the class decides on an operant the frequency of which is to be increased, for example, turning off a light, assuming a writing posture, or lying on the floor. When the subject returns to the room, the class shapes him toward the desired re-

sponse by clapping hands each time he moves in the direction of the desired behavior.

15. Statistical concepts of normality-abnormality can be discussed or introduced through a procedure involving a count of the number of articles contained in the pockets of each male in the class. A tally is kept on the board by the instructor, and a normal distribution is the most likely result. It then can be demonstrated that persons who depart from the mean in either direction are abnormal in a strictly statistical sense.

16. At the conclusion of a section on learning, a dog can be brought to class to remind students that they can find learning principles in everyday situations if they will look for them.

If the dog bounds unrestrainedly from student to student, one infers a somewhat different developmental history of past experiences with strangers than if he makes consistent avoidance responses.

If the dog shakes hands, demonstrate the response and count the number of such responses to extinction. Walk a few feet away, return immediately, and demonstrate spontaneous recovery of the response. Count the number of responses to the second extinction and repeat the whole diminishing sequence until spontaneous recovery is no longer obtained. Then introduce a food reinforcement to illustrate the rapid reinstatement of a previously learned response.

If the dog has previously been taught to refrain from picking up a dog biscuit until given permission, inhibitory phenomena can be demonstrated. In an inhibited state, some dogs, while looking at the biscuit, will back away very slightly or turn their heads very slowly away from the biscuit (inhibition is an active state sometimes involving movements that counter the act inhibited). If a student touches the dog on the flank, the dog will usually snap up the biscuit immediately (disinhibition).

Many dogs have a fear or dislike of certain objects, which can be used to illustrate several principles. The dog in question showed fear responses (tail between legs and head bowed) to the sight of a medium-sized bottle that had previously been used in swabbing out its ears. Evoking this response in class demonstrates a conditioned emotional response. The sight of a bottle differing only slightly in size and shape brings about the same response (stimulus generalization). The sight of a bottle much larger or much smaller than the original does not evoke the fear response (visual discrimination) and brings about exploratory behavior (curiosity response).

Consultation with students often will reveal a source of dogs that can be used to illustrate these and other principles. Sometimes a student can be given help in using his own dog to present a demonstration of these phenomena.

17. To demonstrate the procedural requirements and contingencies of testing situations, invite a child to the classroom and give him sample items from the WISC, Stanford-Binet, or another standardized test. Other tests than those of intelligence can be used, such as one measuring concept formation. It is often useful to work with two children at different age levels, administering the same items to each so that developmental changes can be demonstrated.

A Maxigimmick

A maxigimmick is one that can be used to illustrate a number of basic concepts--a kind of hook on which to hang several areas of traditional concern in the field and provide integration for them. It also can capitalize on recent emphases on relevance.

The field of extrasensory perception can be used so that scientific principles always are taught within the context of an interesting problem-oriented approach. Typically, teaching about ESP includes the work of Rhine, whose standard deck of ESP cards consists of one figure to a card and five cards for each of five figures--a deck of 25. A simple concept of statistical probability can be illustrated by showing that chance alone leads to 5 correct identifications for a run of 25 cards, assuming that the subject is given no information on hits as the experiment progresses. The instructor may wish to attempt a mathematical proof of this concept. For most students, however, a "mechanical" demonstration may be more appropriate. Two shuffled decks are placed facedown. Each card in the "sending deck" is used to call the corresponding card in the "receiving deck." The experiment corresponds to the typical ESP experiment except that hits cannot be attributed to ESP. The experiment may be repeated a number of times until it is apparent that 5 hits in a series of 25 can be attributed to chance alone.

If one wishes to introduce a somewhat more sophisticated approach to statistics, he may raise the question of whether 7 hits out of 25, which does exceed the chance figure of 5, constitutes "convincing evidence" of ESP. The question can be a suitable take-off point for significance of difference statistics, including computations to show how many runs averaging 7 hits would be necessary to reach a certain criterion of statistical significance. The notion of levels of significance can acquire meaning in this context.

The fact that some early users of the Rhine cards obtained hits far above chance was found to be due to subtle cues used by subjects without awareness. Highlights on the back of cards sometimes showed the symbols because of heavy pressure used in printing. Sometimes adequate visual and auditory shielding was not used between subjects. These sources of error permit the instructor to emphasize what is meant by a well-controlled experiment. They also provide an opportunity for the intriguing observation that if ESP can be shown to influence behavior, many experiments in psychology will have to be regarded as poorly controlled! Students themselves can be asked to illustrate this point.

The multivariable approach to problems may be illustrated by noting the different variables alleged to influence the outcome of ESP experiments. These include the use of stimulants versus depressants, the degree and kind of motivation (reward, suggestion, hypnosis), the degree of belief in ESP, affective states, the degree of synchrony of alpha rhythms between sender and receiver, the degree of genetic identity (twin studies), etc. Describing the ways these variables have been used in experiments provides an opportunity to discuss what is meant by a stimulant, the various forms motivation can take, how one constructs a scale to measure degree of initial belief in ESP, the varieties of affective states, the concept of photic driving to produce synchronous alphas in sender and receiver, and what is meant by degree of genetic identity.

An ESP experiment may be carried out by writing the numbers 1, 2, 3, and 4 on the board and asking each member of the class to select one of the numbers and write it down. Each subject then concentrates on his number, and the instructor, after a period of simulated cerebral activity, writes on a slip of paper, "More were thinking of 2 and 3 than of 1 and 4. More were thinking of 3 than of 2. Fewer were thinking of 1 than of 4." These statements are given to a student, and a tally of numbers actually concentrated on is then made on the board. With a group of 50 or more, the experiment usually will confirm all three statements. If the instructor then asks if the experiment confirms the existence of ESP, students will typically suggest alternative explanations. The instructor may then conveniently show how the law of parsimony is used in the search for alternative hypotheses to account for behavior. (For smaller classes it is safer to write the words color, flower, and tool on the board and have class members concentrate, in turn, on a specific color, flower, and tool of their own choosing. The modal selections are red, rose, and hammer, respectively, and serve the same purpose as the number selections in apparently demonstrating ESP. Alternatives to the ESP hypothesis are generated readily by students who are interested to learn that they were making use of the law of parsimony without being aware of it.)

That it is often necessary to transform "qualitative data" into quantitative form in order to answer certain questions can be shown readily by telling students about the experiments in which the sender draws something and the receiver attempts to duplicate the drawing. If the sender draws a rectangle and the receiver proceeds to draw a house that has rectangular windows, doors, and chimneys, does this constitute a "hit"? If we were to collect "sent" and "received" drawings, we could argue interminably as to whether they vindicated a belief in ESP. The class can be challenged to take the data and think of ways to answer this question in such a fashion as to bypass "after-the-fact rationalizations" made in support of ESP. Someone usually will hit on the method of asking judges who know nothing of the experiment to select the best match between "sent" and "received" drawings in each instance.

The dangers inherent in optional stopping are well demonstrated by ESP experiments. The practice of selecting "promising subjects" on the basis of a few calls with the Rhine cards represents one type of optional stopping. In most instances, further trials with these subjects show that they were simply lucky on a few initial trials. Students can be made aware of the problem by presenting them with a blatant case of optional stopping. When asked whether they feel that ESP has been demonstrated, they usually see the problem even though they have no name for it. Discussion leads logically to the conclusion that having a large number of trials is one way of avoiding the error of optional stopping. The importance of a large number of subjects can be discussed in this context and expanded on if the instructor wishes.

Since much of the foregoing may appear to represent a somewhat unsympathetic approach to ESP, it might be well to point out that experiments on ESP can never be used to disprove its existence. Such experiments can provide only varying degrees of support for its existence. When this fact is understood, it provides the instructor with a good way of illustrating the null hypothesis: that ESP does not exist is the null hypothesis that must be rejected at various levels of significance. Failure to reject the null hypothesis only tells the experimenter that he has failed to demonstrate ESP in that experiment. Even the rejection of the null hypothesis does not, by itself, establish the certainty of ESP. Rejection simply lets one say that the data are consistent with the hypothesis that ESP might be a factor influencing behavior. This statement is a good place to bring up the fact that establishing a correlation or a relationship does not imply causality. The nature of the relationship must be established by further experiments, which can be discussed in detail by the instructor.

That the scientific study of behavior is not always evaluated in a completely objective manner is probably demonstrated better for ESP experiments than for most other experimental work. Many psychologists look with suspicion upon work on ESP, and journal editors frequently have refused to accept articles in the area even when the methodology is above reproach. The very fact that an experiment produces positive results is likely to lead skeptics to assume that it was poorly controlled. Thus we must conclude that publication outlets are not equally available to all persons doing research.

The discrimination against publications that report positive findings in the area of ESP has been defended as a commendable example of the universal tendency to use the law of parsimony in science. While we usually applaud the use of this principle, its consistent use does raise a problem which students find interesting. If a naked man were to appear suddenly on a crowded downtown street corner, it can be predicted that someone will take off his coat, cover the person, and hustle him out of sight. Is it possible that the consistent use of the law of parsimony might sometimes have the effect of hiding a genuinely new discovery by burying it within an older, more familiar, more acceptable concept? Is there a danger that a new idea or discovery might thereby go unrecognized? Some very good discussions can grow out of this important question. The desirability of never closing the door on any concept, regardless of how improbable, can be made in connection with the discussion. Support for this emphasis can be obtained by noting the large number of "basic" scientific beliefs that had to be corrected as further data were obtained.

SOME WAYS OF ORGANIZING A COURSE

Teaching strategies and styles vary depending on the size of the class, the purpose of the course, the educational philosophy of the instructor, the goals of the students, etc. Each teacher will have to use his own judgment in deciding what is suitable for his own unique situation. Despite this diversity, however, all share two important problems:

1. Making the subject matter relevant. Some teachers prefer to stress a discipline-oriented approach in which traditional topics constitute the focus of attention. Some prefer to make the course relevant by stressing the issues approach. In each instance the teacher is faced with the problem of relating the science to the problems or issues. Most discipline-oriented teachers point out areas of application, and issue-oriented teachers often use principles derived from the discipline. To some extent the problem of a discipline-oriented versus issue-oriented approach can be seen more as a matter of emphasis than a matter of what is taught. Both relate principles and applications.
2. Organizing our thinking about topics that make up the area of psychology. Organization involves relating topics to one another and making whatever integration or synthesis is possible.

A teacher may wish to organize his thoughts by using a matrix approach. Three examples are presented to illustrate how several teachers went about organizing their thinking.

Example 1

The example is universal in the sense that a teacher may substitute whatever topics he chooses and then proceed to fill in the cells of the matrix in the way that appears logical to him. The procedure calls attention to relationships the teacher might otherwise overlook as he organizes material for classroom purposes.

For the first example, the instructor has listed the topics he wished to cover in the form of a matrix. The diagonal line was drawn through the cells where each topic intersected with itself. The matrix was then ready to be used in organizing material for either a subject-matter-oriented approach or for an issue-oriented approach. Both are illustrated in Matrix 1.

Subject-Matter-Oriented Approach

In the cells to the upper right of the diagonal line are found the topics (identified by number) that this particular instructor judged most suitable for joining or relating the two topics in question. For example, in thinking through ways of relating personality to conflict and adjustment, he judged topics 2, 3, 5, 6, and 12 to be most suitable. Another instructor might make a somewhat different selection of topics for relating these two areas. He might not wish to limit the number to five. The line drawn through the top row and the first column indicates a personal bias that psychology, as a science, should run like a thread through all other topics and not be regarded as something separate. An instructor who does not share this bias can remove the line and fill in these cells in the usual way.

MATRIX 1

Example 1: Subject-Matter-Oriented and Issue-Oriented Approaches

	1. Psychology as science	2. Development (biological)	3. Development (experiential)	4. Perception	5. Learning	6. Motivation	7. Thinking & problem solving	8. Statistics	9. Ability testing	10. Heredity-environment	11. Personality	12. Emotion	13. Conflict & adjustment	14. Social psychology
1. Psychology as science														
2. Development (biological)			4,5, 7,10,13	3,5, 7,9,10	3,4, 6,7,10	3,4, 5,10,13	3,4, 5,6,10	5,9, 10	4,5, 6,7,10	5,8, 9,10,13	3,5, 6,10,13	3,5, 6,10,13	3,4, 5,10,12	5,6, 10,12,13
3. Development (experiential)		✓		5,6, 7,12,13	2,4, 6,7,11	4,5, 7,11,14	2,5, 6,11,13	-	5,6, 11,13,14	2,5, 6,9,14	2,5, 10,13,14	2,5, 6,13,14	2,5, 11,12,14	4,5, 6,11,13
4. Perception			✓		2,3, 7,10,14	3,5, 7,13,14	3,5, 6,9,12	-	2,3, 5,6,12	2,3, 5,6,14	3,5, 6,13,14	3,5, 6,11,14	3,5, 6,11,14	3,5, 6,11,13
5. Learning		✓	✓	✓		2,3, 4,7,10	3,4, 6,9,12	2,3, 10,13	5,6, 7,8,13	3,4, 6,13,14	3,4, 6,13	3,6, 9,13	3,4, 6,11,14	3,6, 11,12,13
6. Motivation			✓	✓	✓		3,4, 5,12,13	-	3,4. 5,11,13	5,9	3,4, 12,13,14	3,4, 5,11,13	3,4, 5,9,12	3,4, 5,11,13
7. Thinking & problem solving			✓					-	2,3, 4,5,13	2,3, 5,6,13	3,5, 6,13,14	3,5, 6,11,13	3,4, 6,11,12	3,4, 5,6,11
8. Statistics									2,3, 5,6,7	2,3, 5,13	2,3, 5,6,13	2,3, 6,10,13	2,3, 6,11,12	3,4, 6,11,13
9. Ability testing			✓		✓	✓		✓		2,3, 5,6,14	3,4, 6,13,14	2,3, 5,7,13	3,5, 6,11,14	3,4, 5,6,13
10. Heredity-environment					✓	✓		✓	✓		2,3, 5,12,13	2,3, 5,6,13	2,3, 5,11,12	2,3, 5,6,11
11. Personality			✓									2,3, 5,6,13	2,3, 5,6,12	3,4, 5,6,13
12. Emotion			✓		✓	✓	✓		✓		✓		2,3, 5,6,11	2,3, 5,11,13
13. Conflict & adjustment			✓	✓	✓	✓	✓		✓		✓	✓		3,5, 6,11,12
14. Social psychology														

Issue-Oriented Approach

The cells to the lower left of the diagonal can be used to make an inventory of topic pairs that can be joined in order to think through or discuss a particular issue. The check marks indicate the topic pairs that this instructor would use in discussing the issue of alleged Negro inferiority. For a different issue the procedure can be repeated using check marks of a different color to identify other topic pairs judged to be relevant to that issue.

Example 2

In this example a discipline-oriented teacher has organized his thinking in the areas shown (see Table 3). The fact that he is discipline-oriented does not mean that he ignores the issues, as is shown by the number of problems he brings in for discussion. This instructor weaves a pattern back and forth between issues and basic topics. He does it in such a way, however, that the student is constantly reminded of the dependence on basic topics for illuminating problem areas. Issues are used to introduce and/or conclude topics so that students are motivated to learn more about the basic discipline. The same emphasis holds for discussions of methods of study, laboratory exercises, or assigned observations in the school or community. Where appropriate, the instructor also relates each topic to ones already covered.

Example 3

In this example an issue-oriented teacher has organized his thinking around an issue. The issue is "sexism," a term increasingly used to refer to antifemale prejudice. The word was derived by analogy from racism. The matrix, at least from the point of view of the student, has four categories within which the concept of sexism is examined: (a) biological-developmental factors, (b) sociocultural factors, (c) learning, and (d) motivational-emotional factors. The teacher, however, may find it more useful to operate within a framework that provides somewhat more specific dimensions, and the following material is so arranged. It consists of suggested topics for discussion and further exploration and is meant merely to be illustrative rather than exhaustive.

Sexism and the Science of Behavior

General material relating to human and female "nature."
Earlier views of the "nature" of women.
The belief that "anatomy is destiny."
The tradition of the "perpetual tutelage of women."
The conclusion of Moebius (1907): "Extra ordinarily important parts of the brain necessary for spiritual life, the frontal convolutions and the temporal lobes are less well developed in women and this difference is inborn ...that the sciences, in the strictest sense, have received no enrichment from women and never shall is therefore understandable."
The contrast of Moebius' statement with the work being done at the same time by Marie Curie.
The effects that views of women's nature have had on legislation, law enforcement, educational and vocational opportunities, etc.
The article by Milton (1958): "Problems conventional to psychological research are more often typically masculine."

TABLE 3

Example 2: Discipline-Oriented Approach

Basic topics	Issues and problems
I. Psychology as a science–general A. History B. What psychology is and is not C. Methods employed D. Relationship to other fields (science and nonscience) E. Pure science vs. applied science vs. art	Is there a mind? Is psychology a science? Is psychology an independent science? Is clinical psychology a science?
II. Behavior is *interaction*–organism and environment A. Organism variables: ontogenetic and phylogenetic B. Environmental variables: stimuli, including social-anthropological	Is the heredity vs. environment polarization a red herring? Is behavior inherited?
III. Basic behavioral areas A. Learning and motivation B. Sensation and perception C. Feelings and emotions	How to study effectively Subliminal advertising Sensory deprivation ESP
IV. Organism variation A. Developmental (prenatal to geriatric) B. Species (comparative) C. Physiological (accident-induced changes) 1. Drugs 2. Ablations	Can you teach an old dog new tricks? When does learning start? Is LSD or pot harmful? How do different drugs affect different animals? Do you need a brain to learn?
V. Individual sameness or difference A. Social psychology (shared behaviors) B. Individual differences 1. Normal (intelligence, personality) 2. Extreme (psychopathology)	Are blacks different? Should marriage between children of schizophrenics be permitted? Myth of mental illness Is intelligence inherited? "Jensenism"
VI. Psychology-applied science vs. art A. Industrial-personnel B. Clinical	How are clinical psychologists and engineers alike and different?

Note.–For each topic, cover history and methods and use appropriate films and laboratory exercises or naturalistic observations of children, groups, pets, etc.

Sexism and Biological Factors in Behavior

Excerpts from Montague's Natural Superiority of Women.
Data on viability differences at every age, including prenatal, between the sexes.
Brain development: male-female differences.
Hormones and behavior.
Cultural differences in menstruation, pregnancy, labor, and menopause.
Sexual behavior differences between the sexes (as in Kinsey): social class factors, masturbation frequency differences, age of first intercourse, frequency of orgasm.

Sexism and Developmental Sequences in Behavior

Sex differences in passing through stages of motor development--walking, etc.
Sex differences in growth rate and timing of pubescence.
Sex differences in speech and vocabulary, speech problems, and stuttering.
Family preferences for male children.
Activity level differences at birth and their causes.
Family-position-effect differences and sex.

Sexism and Individual Differences

Impact of statements such as: "When a boy is born, it is difficult to predict what he will be doing 25 years later. We cannot say whether he will be an artist or a doctor or a college professor because he will be permitted to develop and fulfill his own identity. But if the newborn child is a girl, we can predict with almost certainty how she will be spending her time 25 years later. Her individuality does not have to be considered; it is irrelevant [Bem & Bem, 1968]."
Sex differences in performance on intelligence and aptitude tests.
Age changes in sex differences in performance on intelligence and aptitude tests.
Sex differences in academic performance, and age changes in sex differences.

Sexism and Sociocultural Factors in Behavior

Excerpts from Margaret Mead's Sex and Temperament in Three Primitive Societies.
Excerpts from Allport's The Nature of Prejudice, especially the chapter on "Traits Due to Victimization"; relate to Terman and Tyler's essential conclusion that females possess a "minority group character structure."
Kagan and Moss on differences in socialization practices between the sexes.
McClelland: "The female image is characterized as small, weak, soft and light. In the United States it is also dull, peaceful, relaxed, cold, rounded, passive and slow."
Bronfenbrenner: "With sons, socialization seems to focus primarily on directing and constraining the boys' impact on the environment. With daughters, the aim is rather to protect the girl from the impact of environment. The boy is being prepared to mold his world, the girl to be molded by it."
Piaget: material on imitation of esteemed models and lack of esteem for women in contemporary society.
Birdwhistell: gesture pattern differences.
Social class differences in expectations for male and female behavior and in child-training practices (Sears, Maccoby, & Levin).
Smith: "When they are asked to compare their achievements with those of boys, they rate boys higher in virtually every respect. Despite factual evi-

dence to the contrary, girls' opinion of girls grows progressively worse with age while their opinion of boys and boys' abilities grows better. Boys, likewise, have an increasingly better opinion of themselves and worse opinion of girls as they grow older."

Sexism and Sensation-Perception

Witkin and Wagner: females are more dependent on external anchorage sources, more disturbed by ambiguity of stimulation, more field-dependent.
Maccoby: "Girls on the average develop a somewhat different way of handling incoming information...[so that]...their thinking is less analytic, more global, and more perseverative...it is not the kind of thinking most conducive to high-level intellectual productivity."
Lower frequency of colorblindness in females (relate to biological factors).
Greater color discrimination capacity in females (relate to learning).

Sexism and Motivation and Emotion

Personality differences between the sexes (see sociocultural factors section).
"Emotionality" in females.
"Pathology" rate differences between the sexes--in ulcer, suicide, suicide attempts, involutional reaction rates (and differences in latter according to cultural emphasis on youthfulness).
Bennett and Cohen: on adjective checklist, women feel themselves to be helpless, sorry, timid, clumsy, stupid, silly, and domestic (and also understanding, tender, sympathetic, pure, generous, affectionate, loving, moral, kind, grateful, and patient); relate to Freeman: "We find a strong similarity between what our society labels, even extols, as the typical 'feminine' character structure and that of oppressed peoples; in this country and elsewhere."
Terman and Tyler: girls were more nervous, unstable, neurotic, socially dependent, submissive, had less self-confidence, lower opinions of themselves and of girls in general, and were more timid, emotional, ministrative, fearful, and passive.
Personality theories and theorists and women: Freud: "Woman--what is it after all that she wants?"
McClelland: achievement need differences between the sexes.
Maccoby on the high-achieving woman: "The girl who does not succumb to overprotection and develop the appropriate personality and behavior for her sex has a major price to pay: the anxiety that comes from crossing the caste lines. It is this anxiety which helps to account for the lack of productivity among those women who do make intellectual careers...because [anxiety] is especially damaging to creative thinking."
View of the high-achieving woman as "abnormal"; relate to definitions of deviance.
Rosenkranz: "mental health" definitions for women differ strikingly from those for men and include, even among mental health professionals, implications of what "happy" females "should" be doing with their lives.
Stanton and Schwartz: differences between sexes in likelihood of receiving psychotherapy, in and out of institutional settings.
Weinstein: "Woman as Nigger."

Sexism and Learning

Successive approximations in learning sex role.
Behaviors reinforced by parents at different social class levels for the two

sexes.

Bronfenbrenner: "oversocialization" in females and its sources and effects.

Formal academic learning and sex: female teacher preferences for female students and differences in distribution of reinforcements in classrooms.

Male and female perceptions of the "learned" female.

General Comments about the Issue-Oriented Approach

All of the above topics obviously relate to all of the others. Sociocultural factors provide excellent examples of the learning-shaping-conditioning process. Discussion of individual differences as well as group differences also requires talking about learning, biological-developmental factors, and motivational factors; it would also necessitate (as would discussion of "abnormality") the introduction of measurement materials.

The amount of time necessary for each category would depend on the point at which the issue of sexism was introduced into the total context of the course. If it were not the first issue, for example, it would be unnecessary to go over basic learning concepts again since they would have been introduced previously. Instead, their usefulness as a way of understanding the development of sex differences would be stressed. There would be a general "snowballing effect" as the whole course progressed, thus assuring not only a considerable amount of built-in integration but also allowing for increasingly brief (but increasingly interrelated) issue presentation.